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IAFOR Journal of Psychology & the Behavioral Sciences

Volume 3 – Issue 2 –Autumn 2017

Edited by Dr Sharo Shafaie and Dr Deborah G. Wooldridge

Introduction

We are pleased to introduce you to our 2017 autumn issue. IAFOR's *Journal of Psychology & the Behavioral Sciences* covers a variety of topics about applications of psychological theories in educational settings, mental health conditions, human development, psychological outreach services and community development, family studies and professional practice, as well as articles addressing the needs of at-risk children, youth and families, and vulnerable populations.

The journal is an internationally peer reviewed and editorially independent, interdisciplinary journal associated with the IAFOR (The International Academic Forum) conferences on Psychology and the Behavioral Sciences. This issue is devoted to several interdisciplinary studies which represent diverse topics, cultures, and disciplines in the fields of psychology and the behavioral sciences. All papers published in the journal have been subjected to the rigorous and accepted processes of academic peer review. Some of the articles are original, and some are significantly revised versions of previously presented papers or published reports from IAFOR's conferences and proceedings.

We would like to express our deep appreciation to all reviewers for taking time from their busy schedules to review each assigned manuscript and for offering their professional expertise and recommendations for improvement of these published papers. Also, we would like to take this opportunity to acknowledge the hard work of the support staff at IAFOR who were involved in the publication of this journal.

Please note that we are seeking manuscripts for our upcoming Spring 2018 issue. Below is the link to the journal's web page for your attention; please review this page to become familiar with the journal's objectives and the submission guidelines for authors.

If you have any questions, please do not hesitate to contact us, otherwise please send your manuscript to the journal's editors below. Thank you for considering this invitation, and we look forward to hearing from you soon.

Best regards,

Journal Editors

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Alexithymia, Attachment and Fear of Intimacy in Young Adults

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Abstract

The present study explored the relationship between alexithymia and adult attachment. There were 100 participants aged 18–30 years (63 females) who completed the following questionnaires: demographics, Revised Adult Attachment Scale (RAAS), Depression Anxiety Stress Scales (DASS-21), Fear of Intimacy Scale (FIS), and Toronto Alexithymia Scale 20 (TAS-20). Findings revealed predicted associations of TAS-20 alexithymia scores with insecure attachment as assessed by RAAS (i.e., lower scores on Close and Depend, and higher scores on Anxiety), fear of intimacy as assessed by FIS, and the DASS-21 index of negative mood. After controlling for age, gender and negative mood, fear of intimacy mediated the association of alexithymia with insecure attachment. Limitations of the study and implications of the findings are discussed.

Keywords: personality, attachment, intimacy, emotions

Acknowledgement: This research was funded by a Bond University Category 2 research grant.

Introduction

Alexithymia is a relatively stable trait dimension (Sander & Scherer, 2009) characterized by difficulty identifying and describing feelings, and an externally oriented thinking style (Taylor, Bagby & Parker, 1997). High levels of alexithymia have been consistently reported to be associated with negative moods such as depression and anxiety (Honkalampi, Hintikka, Tanskanen, Lehtonen & Viinamäki, 2000; Lyvers, Lysychka & Thorberg, 2014) as well as with substance misuse (Lyvers, Hinton, Gotsis, Roddy, Edwards & Thorberg, 2014; Thorberg, Young, Sullivan & Lyvers, 2009) and interpersonal difficulties (Humphreys, Wood & Parker, 2009; Kauhanen, Kaplan, Julkunen, Wilson & Salonen, 1993; Kokkonen, Karvonen, Veijola, Laeksy & Jokelainen, 2001; Vanheule, Desmet, Meganck & Bogaerts, 2007). For example, Qualter, Quinton, Wagner and Brown (2009) reported that in university students, high levels of alexithymia were associated with loneliness and interpersonal distrust. Alexithymia has also been reported to be negatively related to secure adult attachment, with supporting evidence obtained across diverse cultural contexts (Doina & Ioana, 2015; Thorberg, Young, Sullivan, Lyvers, Hurst, Connor & Feeney, 2011; Troisi, D'Argenio, Peracchio & Petti, 2001). Both high alexithymia and insecure attachment in adults have been hypothesized to reflect outcomes of poor parenting (Karukivi & Saarijärvi, 2014; Thorberg, Young, Sullivan & Lyvers, 2011; Wearden, Cook & Vaughan-Jones, 2003); however, there is also evidence for a moderate genetic contribution to alexithymia (Jorgensen, Zachariae, Skytthe & Kyvik, 2007).

Research by Montebanocchia, Codispotib, Baldaroa and Rossi (2004) indicated that high scores on the Toronto Alexithymia Scale 20 (TAS-20; Bagby, Parker & Taylor, 1994) – a widely used self-report index of alexithymia – were associated with both insecure attachment and fear of intimacy. A more recent study (Besharat, Naghshineh, Pooyesh & Tavalaeayan, 2014) similarly found that higher alexithymia as indexed by TAS-20 alexithymia scores was negatively related to indices of secure attachment and marital satisfaction, and positively associated with scores on the Fear of Intimacy Scale (FIS; Descutner & Thelen, 1991). As other recent research has suggested that those with high levels of alexithymia may be characterized by a “fearful” attachment style (Doina & Ioana, 2015), the present study sought to determine whether the reported negative association between TAS-20 alexithymia and secure attachment would be mediated by fear of intimacy, as indexed by the FIS, in a young adult sample.

Recent evidence indicates that those with high levels of alexithymia may be prone to experience difficulties in interpersonal relationships due to the association of alexithymia with fundamental deficits in the ability to recognize and properly label facial expressions of emotions, as well as deficiencies of emotional empathy and affective theory of mind (Demers & Koven, 2015; Grynberg et al., 2013; Lyvers, McCann, Coundouris, Edwards & Thorberg, in press; Prkachin, Casey, & Prkachin, 2009). For example, research by Prkachin et al. suggested that those scoring high on the TAS-20 index of alexithymia tend to misread others' emotions and may thus fail to respond appropriately, which would likely interfere with the development and cultivation of close relationships. More recently, Lyvers et al. (in press) found that higher TAS-20 alexithymia scores were related to poorer facial emotion recognition performance as well as low emotional empathy, similar to other recent findings by Grynberg et al. (2013) and Demers and Koven (2015). Lyvers et al. (in press) also found that the negative association of alexithymia with emotional empathy was mediated by deficient facial recognition of emotions. Alexithymia thus appears to involve not just difficulties in identifying and reporting one's own emotional feelings, but also difficulties in

detecting and appropriately responding to the emotional states of others. A logical outcome of poor ability to link facial cues of emotion to emotional feeling states is low emotional empathy, which would also be expected to work against intimate relationships. Empathizing with others in terms of their emotional feelings, and responding appropriately, would obviously be impossible for an individual who is unable to recognize those emotions in the first place. The association of alexithymia with fear of intimacy may thus reflect repeated experiences of interpersonal conflict by those with high levels of alexithymia, stemming from their poor ability to read and properly respond to others' emotional feelings. Fear of intimacy, in turn, would be expected to promote an insecure attachment style among those with high levels of alexithymia.

In the present study, based on the previous work cited earlier, TAS-20 alexithymia scores of young adults were predicted to be positively associated with indices of negative mood and fear of intimacy, and negatively associated with indices of secure attachment. Further, after controlling for demographic and mood variables, fear of intimacy was predicted to mediate the negative relationship of alexithymia to secure attachment.

Method

Participants

A total of 103 young adult participants were initially recruited through the online survey platform Qualtrics. Three cases identified as multivariate outliers by Mahalanobis Distance ($p < .001$) were subsequently removed, resulting in a final sample of 100 participants. All participants were between the ages of 18 and 30 years ($M = 24.39$ years, $SD = 3.65$), and 63 were female. There was a small monetary incentive for all participants.

Materials

Participants completed an online questionnaire battery containing five measures assessing demographics, alexithymia, negative mood, attachment style and fear of intimacy.

Demographics Questionnaire. This brief self-report questionnaire assessed participants' age, gender, country of origin, years of education, and whether they were currently taking medication for a psychiatric or neurological disorder.

Toronto Alexithymia Scale (TAS-20; Bagby et al., 1994). The TAS-20 is a self-report inventory consisting of 20 items assessing the three facets of alexithymia: Difficulty Identifying Feelings (DIF; e.g., "I often don't know why I am angry"); Difficulty Describing Feelings (DDF; e.g., "It is difficult for me to find the right words for my feelings"); and Externally Oriented Thinking (EOT; e.g., "I prefer to watch 'light' entertainment shows rather than psychological dramas"). Items are scored on a five-point Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). Responses are totalled to yield a score on a continuum of 20-100 of symptom severity, with higher scores indicating higher alexithymia. In the present sample the Cronbach alpha reliability coefficient was .88.

Depression, Anxiety Stress Scales – 21 (DASS-21; Lovibond & Lovibond, 1995). The DASS-21 is a 21-item, self-report scale that assesses Depression (e.g., "I couldn't seem to experience any positive feeling at all"), Anxiety (e.g., "I was worried about situations in which I might panic and make a fool of myself"), and Stress (e.g., "I felt that I was rather touchy"). When completing the inventory, participants indicate the presence of the symptom occurring in the last seven days. The items are scored on a four-point Likert Scale ranging from 0 (*Did not apply to me at all*) to 3 (*Applied to me very much or most of the time*). The

score is summed for each facet and then doubled to be equivalent to the 42-item DASS. Higher scores on each construct indicate more frequent occurrence of symptomology. In the present study the total DASS-21 score was used as an index of negative mood. The Cronbach alpha reliability coefficient for the current sample was .96.

Fear of Intimacy Scale (FIS; Descutner & Thelen, 1991). The FIS was developed to assess an individual's inability to communicate thoughts and feelings in a close relationship or at the prospect of a close relationship. The FIS is a 35 item measure using a five-point Likert scale ranging from 1 (*not at all characteristic of me*) to 5 (*extremely characteristic of me*). Higher scores indicate a greater fear of intimacy. The items are constructed around three defining features: content (the communication of personal information), emotional valence (strong feelings about the personal information exchanged), and vulnerability (high regard for the intimate other). In the present sample the Cronbach alpha reliability coefficient was .90.

Revised Adult Attachment Scale (RAAS; Collins, 1996). The RAAS is an 18-item self-report measure which assesses relationship attachment in adulthood, and has three dimensions: comfort with closeness, comfort with dependence, and anxiety issues concerning being abandoned or unloved. Each subscale has an equal distribution of six items, and is scored on a six-point scale from 1 (*not at all characteristic of me*) to 5 (*very characteristic of me*). According to Collins, high scores on Close and Depend, and low scores on the Anxiety dimension, indicate a secure attachment style. Thus in the present study secure attachment was indexed by the following formula: $(\text{Close} + \text{Depend})/\text{Anxiety}$. The Cronbach alpha reliability coefficient was .77 in the present sample.

Procedure

Prior to commencement of data collection, formal approval from the university ethics committee was obtained. Data were collected from the Qualtrics Australia community sample over a nine-week period. The study was introduced to prospective participants as an investigation of potential links between personality, mood and interpersonal relationship styles. Consent was obtained by checking a box below the explanatory statement prior to answering the questionnaires. Participants were required to complete the questionnaires in one sitting. Anonymity of responses was maintained throughout the study. The order of the questionnaires following the explanatory statement was demographics, RAAS, DASS-21, FIS, and TAS-20. A small monetary incentive was provided to each participant by Qualtrics upon completion as per Qualtrics' policy for surveys of short duration.

Results

Bivariate correlations are presented in Table 1. As can be seen in the table, the variables were related to each other in expected ways. Importantly, TAS-20 alexithymia scores and FIS fear of intimacy scores were significantly positively correlated with each other and with the total DASS-21 negative mood index as well as the RAAS Anxiety index of anxious attachment; further, both TAS-20 and FIS were significantly negatively correlated with RAAS Close and Depend scales, as predicted.

Regression analyses were undertaken to test for the predicted mediation of the negative relationship between TAS-20 alexithymia and secure attachment. The latter was operationalized by the formula $(\text{Close} + \text{Depend})/\text{Anxiety}$, based on the rationale that secure attachment as defined by RAAS scores refers to high scores on Close and Depend

accompanied by low scores on Anxiety (Collins, 1996). The simple Steps Approach of Baron and Kenny (1986) was followed. First, the predictor variable was confirmed to be related to the criterion variable. A standard regression was then performed to demonstrate an association between predictor and proposed mediator. Finally a hierarchical regression was run to examine whether the proposed mediator accounted for variance in the criterion over and above that accounted for by the predictor. If so, a Sobel test was performed using Preacher and Leonardelli's Sobel Calculator (<http://quantpsy.org/sobel/sobel.htm>). Age, gender and the DASS-21 negative mood index were covariates in the regression analyses.

Table 1: *Bivariate Correlations of Variables.*

	1	2	3	4	5	6
1. TAS-20	-					
2. DASS-21	.40**	-				
3. RAAS Close	-.40**	-.19	-			
4. RAAS Depend	-.32**	-.40**	.29**	-		
5. RAAS Anxiety	.36**	.49**	-.12	-.60**	-	
6. FIS	.52**	.42**	-.48**	-.31**	.39**	-

Note. TAS-20 = Toronto Alexithymia Scale 20, DASS-21 = Depression Anxiety Stress Scales 21, RAAS = Revised Adult Attachment Scale, FIS = Fear of Intimacy Scale. ** $p < 0.01$ (two-tailed)

First, a hierarchical regression was conducted on the secure attachment index with TAS-20 scores. At the first step, the control variables age, gender and negative mood explained 24% of the variance in secure attachment, $F(3, 96) = 10.33, p < .0001$. At this step only negative mood was a significant predictor (see Table 2). At step 2, alexithymia was a significant negative predictor of secure attachment, accounting for an additional 8.5% of variance, $F_{change}(1, 95) = 12.04, p = .001$. Both TAS-20 and DASS-21 were significant negative predictors of secure attachment at step 2 (see Table 2). Next, a hierarchical regression was conducted on FIS scores (mediator) with TAS-20 scores. At the first step, the control variables age, gender and negative mood explained 19% of the variance in fear of intimacy, $F(3, 96) = 7.26, p < .0001$. At this step only negative mood was a significant predictor (see Table 3). At step 2, alexithymia was a significant predictor of fear of intimacy, accounting for an additional 14% of variance, $F_{change}(1, 95) = 19.46, p < .0001$. Both TAS-20 and DASS-21 were significant predictors of FIS scores at step 2 (see Table 3).

Table 2

Hierarchical Multiple Regression Analysis to Assess Prediction of Secure Attachment by Alexithymia, Controlling for Age, Gender, and Negative Mood

Predictor	ΔR^2	β	<i>B</i>	<i>SE B</i>
Step 1	.24***			
Constant			3.14	.70
Age		.04	.01	.03
Gender		-.11	-.23	.19
DASS-21		-.48***	-.03	.01
Step 2	.085**			
Constant			4.78	.81
DASS-21		-.36***	-.02	.01
TAS-20		-.32**	-.03	.01

Note. *SE B* = standard error of unstandardized coefficient; DASS-21 = Depression Anxiety Stress Scales 21 total score; TAS-20 = Toronto Alexithymia Scale 20 total score. ** $p < .001$. *** $p < .0001$.

Table 3

Hierarchical Multiple Regression Analysis to Assess Prediction of Fear of Intimacy by Alexithymia, Controlling for Age, Gender, and Negative Mood

Predictor	ΔR^2	β	<i>B</i>	<i>SE B</i>
Step 1	.19***			
Constant			96.84	13.65
Age		-.08	-.42	.50
Gender		-.08	-3.08	3.72
DASS-21		.41***	.50	.11
Step 2	.14***			
Constant			57.19	15.40
DASS-21		.25*	.30	.11
TAS-20		.41***	.61	.14

Note. *SE B* = standard error of unstandardized coefficient; DASS-21 = Depression Anxiety Stress Scales 21 total score; TAS-20 = Toronto Alexithymia Scale 20 total score. * $p < .01$. ** $p < .001$. *** $p < .0001$.

A hierarchical regression was then conducted on the secure attachment index, with age, gender, DASS-21 and TAS-20 entered at Step 1, followed by FIS scores at Step 2. As outlined in Table 4, the covariates of age, gender and negative mood, together with alexithymia, accounted for a significant 33% of variance in secure attachment at Step 1, $F(4, 95) = 11.65$, $p < .0001$. At this step both alexithymia and negative mood were significant negative predictors (see Table 4). At Step 2, with the addition of FIS into the model an additional 5% of variance was accounted for, $F_{change}(1, 94) = 7.36$, $p = .008$. Negative mood, alexithymia and fear of intimacy were all significant at this step, though the contribution of alexithymia was diminished (see Table 4). The Sobel test indicated that after controlling for age, gender and negative mood, the negative relationship between alexithymia and secure attachment was partially mediated by fear of intimacy, $z = 2.31$, $p = .02$.

Table 4: *Hierarchical Multiple Regression Predicting Secure Attachment from Alexithymia and Fear of Intimacy, Controlling for Age, Gender and Negative Mood*

Predictor	ΔR^2	β	<i>B</i>	<i>SE B</i>
Step 1	.33***			
Constant			4.78	.81
Age		.00	.00	.02
Gender		-.15	-.31	.18
DASS-21		-.36***	-.02	.01
TAS-20		-.32**	-.03	.01
Step 2	.05**			
Constant			6.00	.84
DASS-21		-.29**	-.02	.01
TAS-20		-.21*	-.02	.01
FIS		-.27**	-.01	.01

Note. *SE B* = standard error of unstandardized coefficient; DASS-21 = Depression Anxiety Stress Scales 21 total score; TAS-20 = Toronto Alexithymia Scale 20 total score; FIS = Fear of Intimacy Scale score. * $p < .05$. ** $p < .01$. *** $p < .001$.

Discussion

All predicted relationships were supported. Scores on the TAS-20 alexithymia and FIS fear of intimacy measures were highly positively correlated with each other as well as with the DASS-21 negative mood index and the RAAS Anxiety scale, and were negatively correlated with RAAS Close and Depend scales. The secure attachment index derived from the RAAS was then subjected to regression analyses to determine whether the negative relationship of alexithymia to secure attachment was mediated by fear of intimacy. The results supported partial mediation, with alexithymia still contributing some variance to secure attachment – though substantially diminished – when fear of intimacy was added to the final model.

The present results thus reinforce the notion that alexithymia is positively associated with fear of intimacy, which in turn may account at least in part for the reported association between high levels of alexithymia and insecure attachment (Thorberg, Young, Sullivan, Lyvers et al., 2011; Troisi et al., 2001). Present findings are also consistent with those of research by Montebaroccia et al. (2004) and Besharat et al. (2014) which showed positive relationships of TAS-20 alexithymia with fear of intimacy (as indexed by the FIS) as well as insecure attachment and (in the latter study) marital dissatisfaction. Further, a recent study by Doina and Ioana (2015), using the TAS-20 index of alexithymia but a different measure of

attachment style than that used in the present study, found a negative relationship of alexithymia with secure attachment but positive relationships with both fearful and preoccupied attachment styles. Such findings, taken together, suggest that one likely reason those with high levels of alexithymia tend to suffer from loneliness in social, familial and romantic domains (Qualter et al., 2009) is their entrenched fear of close, intimate relationships.

Given the importance of such relationships for optimal mental health, the well-documented associations of alexithymia with substance misuse and mood disorders are perhaps not surprising. However, the present findings can only be considered preliminary given that the final sample consisted of 100 participants recruited from the internet – which necessarily constrains external validity as well as statistical power – and the fact that the direction of causation is not evident and cannot be gleaned from the current correlational results. Does inherently high trait alexithymia promote development of an insecure adult attachment style and a fear of intimacy, perhaps as the result of repeated experiences of interpersonal conflict or rejection stemming from deficits in the ability to properly detect and respond to the emotional states of others (Lyvers et al., in press)? Or does an insecure attachment style – perhaps founded on childhood perceptions of inadequate parental care and poor maternal bonding – lead to the development of both alexithymia and fear of intimacy as a defensive strategy? Longitudinal studies are ultimately needed in order to fully address such issues, as the heritability of alexithymia is estimated at only 30–33% (Jorgensen et al., 2007), leaving open the possibility that its severity in adulthood may be linked to adverse childhood experiences including poor parental care (Thorberg, Young, Sullivan & Lyvers, 2011). In any case, the consistent finding of a strong association between alexithymia and fear of intimacy suggests that targeting the latter to improve interpersonal functioning may be a viable approach in the treatment of clients suffering from depression, anxiety, or substance disorders, who also exhibit high levels of alexithymia.

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Experiential Avoidance as a Mediator between Rejection Sensitivity and Social Interaction Anxiety

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Abstract

Due to the overarching and related concepts involved in interpersonal sensitivity, this study aimed to look at the differences between, and relationships of, some of its concepts by explaining the mediating effect of experiential avoidance on rejection sensitivity and social interaction anxiety. One hundred fifty-nine undergraduates within the National Capital Region, aged 16 to 40 ($M = 19.29$, $SD = 2.89$), and comprising 89 females and 70 males participated in the study. Results show that both rejection sensitivity and experiential avoidance significantly affect social interaction anxiety. Also, a full mediation occurs when experiential avoidance serves as a mediator. This is explained through the occurrence of habitual coping, whereby the cognitive aspect of behavior (in this case, rejection sensitivity) becomes dormant and unnecessary. Some variables which may have possibly accounted for the relationship between these concepts may be considered for future research to validate and better understand the findings of this study.

Keywords: experiential avoidance, rejection sensitivity, social interaction anxiety

Introduction

Several psychologists, such as Freud, Maslow, Horney, Sullivan, and Fromm have accounted for the concept of belongingness in their theories. Belongingness hypothesis states that every human being has the insistent drive to create and maintain long-lasting and significant interpersonal relationships; and the failure to do so may lead to psychopathology and other ill effects inflicted by the individual (Baumeister, & Leary, 1995).

Dating back to the history of evolution, it may be seen that belongingness was already an important aspect for survival: people formed groups to hunt and fight against predators, they picked mates to care for their offspring, and shared their resources among group members (Baumeister, & Leary, 1995). Belonging is indeed important in maintaining one's quality of life – Maslow's hierarchy of needs places love and belongingness above basic needs (Maslow, 1968). This pertains to the human motive of satisfaction which is gleaned from being part of a group of people. Thus, people become vulnerable to and suspicious of the actions of the people around them if their feeling of belongingness is perceived to be threatened. However, such vulnerability more often than not leads to feelings that are the opposite of belonging. Hence, this makes such people more prone to depression and anxiety disorders.

An overarching construct used to explain this is interpersonal sensitivity. Boyce and Parker (1989) defines this as the “undue and excessive awareness of and sensitivity to, the behavior and feelings of others” (p. 342). This trait is attributed to one's personal inadequacy and frequent misinterpretations of others' behaviors, which then lead to sensitivity to social feedback, vigilance with the reactions of other people toward oneself, excessive concern about the behavior and comments of others, and fear of being criticized, whether perceived or actual, by others (Boyce, Hickie, Parker, & Mitchell, 1993; Boyce & Parker, 1989; Davidson, Zisook, Giller, & Helms, 1989). These manifestations result in discomfort and avoidance of being with a group, and non-assertive behaviors. While Boyce & Parker (1989) coined the term interpersonal sensitivity, Harb, Heimberg, Fresco, Schneier, & Liebowitz (2002) suggest a more narrowed-down term for the construct – interpersonal rejection sensitivity – to emphasize the individual's perceived threat towards interpersonal rejection.

Rejection: Antithesis to Sense of Belonging

Rejection is one of the feelings people may become vulnerable to when they feel as if they do not belong to a group of people. Depending on the person's readiness to perceive and react to cues of rejection, responses such as aggression, depression, emotional detachment, and resentment may be manifested by the individual (as cited in Downey, & Feldman, 1996). This is called rejection sensitivity. Seen as a defense motivation system, individuals are motivated to protect themselves against possible rejection from their significant others, such that their negative thoughts, feelings, and physiological responses are already activated on possible cues of the said phenomenon – an *if . . . then* phenomenon (Downey, Mougios, Ayduk, London, & Shoda, 2004). For example, *if* my friend does not respond to my text message within an hour, *then* I will not talk to her anymore. This response is not the same for every individual as level of rejection sensitivity varies. Highly rejection-sensitive (HRS) individuals are those with heightened tendency toward anxious expectations, perceptions, and intense reactions to rejection (Downey et al., 2004).

Figure 1 shows how Levy, Ayduk, Downey, & Leary (2001) conceptualized rejection sensitivity. Here, rejection sensitivity is seen as an innate trait, and is only activated by trigger stimuli. Depending upon their degree of sensitivity to rejection and perception based on the stimuli, an individual processes cognitive and affective thoughts about how to react. This then results in behaviors, either positive or negative, depending upon the formed cognitive and affective thought, which further forms the rejecting experience of the individual.

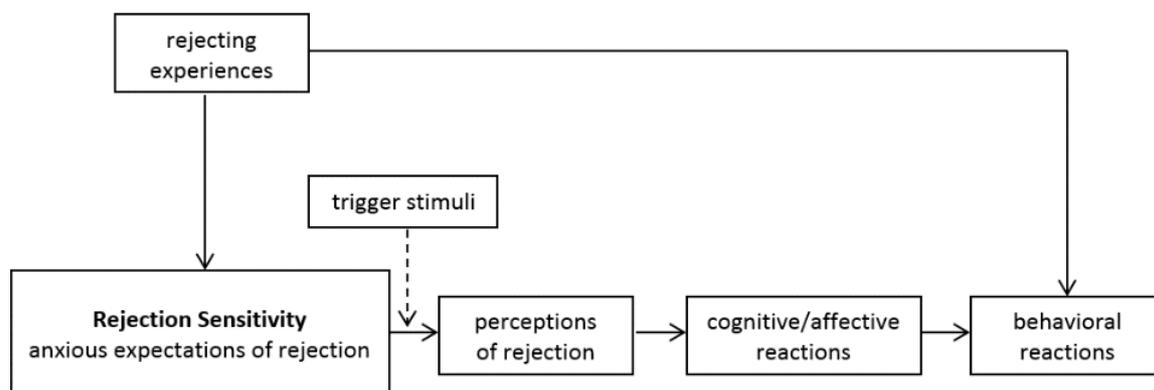


Figure 1: Rejection Sensitivity Model (Levy, Ayduk, Downey, & Leary, 2001)

Social Anxiety as a Correlate of Rejection Sensitivity

Several studies show that rejection sensitivity correlates with social anxiety, defined as the anxiety experienced by people due to their inability to create positive impressions on others (Downey, & Feldman, 1996). A cognitive-behavioral framework has been proposed by scholars to understand this construct (as cited in Kashdan, Goodman, Machell, Kleiman, Monfort, Ciarrochi, & Nezlek, 2014). This framework suggests that fear and avoidance of social interactions arise from dysfunctional beliefs (e.g. negative evaluations by others, exposed character flaws, and visible anxiety), which then leads to unhelpful reactions by the individual such as hypervigilance to cues of social failure and over self-monitoring. Also, consistent with other models made on anxiety disorders, there is a presumption that anxiety in social situations is a response to a perceived threat (Rapee & Heimberg, 1997). Taking these into account, highly rejection sensitive (HRS) individuals would tend to avoid social interactions that might possibly expose them to rejection (a perceived threat) due of the belief that they have once been rejected, thus inducing anxiety in the individual.

It may also be argued that in relating social anxiety and rejection sensitivity to a broader personality trait, features of introversion might be reflected due to the avoidant behaviors that an individual displays (Rapee & Heimberg, 1997; Downey & Feldman, 1996). Downey & Feldman (1996) also found that HRS individuals have difficulty maintaining intimate adult relationships. This supports that perceptions of being rejected result to difficulty in maintaining social interactions, hence creating social anxiety.

Based upon the type and specificity of evaluative fears, two broad domains of social anxiety are identified: performance and social interaction. Performance anxiety arises when there is fear of being scrutinized by others during specific tasks such as writing, public speaking, and test taking, while social interaction anxiety involves fear and shyness in situations where communication with other people (e.g. social gathering and dating) is expected (Mattick, & Clarke, 1998). Different scales are also used to measure performance (e.g. Social Phobia Scale)

and social interaction anxiety (e.g. Social Interaction Anxiety Scale) because albeit their correlation, they are distinct from one another (Heidenreich, Schermelleh-Engel, Schramm, Hofmann, & Stangier, 2011; Safren, Turk, & Heimberg, 1998). Hence, these instruments are administered together to gauge the general concept – social anxiety.

Experiential Avoidance as a Correlate of Rejection Sensitivity

It is evident from the concept of rejection sensitivity that it leads to certain behaviors adopted to avoid perceived threats. Another concept related to rejection sensitivity is experiential avoidance (EA), a phenomenon that occurs when a person is reluctant to deal with particular private experiences such as bodily sensations, emotions, thoughts, memories, behaviors, and predispositions, and makes ways to change the form and frequency of these events (Hayes, Wilson, Gifford, Follete, & Strosahi, 1996).

Several theorists (e.g. Kashdan, Weeks, & Savostyanova, 2011; Heimberg, Brozovich, & Rapee, 2010) have proposed that this is an essential element in the development of social anxiety, such that greater experiential avoidance leads to greater social anxiety. Specifically, the findings of Kashdan et al. (2014) showed that although EA levels in an individual were similar across situations, the relationship between experiential avoidance and social anxiety depends on the context of the situation. When the situation calls for more mentally challenging tasks where the self is highly vulnerable to dysfunctional beliefs, EA is more relevant as compared to situations that call for minimal mental effort. For example, experiential avoidance may lead an individual to engage in a non-significant conversation with a stranger, but not in interactions that would require intimacy and compassion, because the element of rejection among strangers is not relevant to them.

Other research has also stated that EA is a rejection of private experiences that leads to emotional distress (Gutierrez, Zarazaga, & Damme, 2011), while Kashdan et al. (2014) found support that experiential avoidance temporarily leads to social anxiety. Experiential avoidance is also seen as a form of coping by some individuals (Kashdan, Barrios, Forsyth, & Steger, 2006). However, this form of coping is believed to have short-term effects only, and has a negative implication in the long run.

Rejection Sensitivity, Social Anxiety, and Experiential Avoidance

Martin & Miller (2013) explained the concepts of rejection sensitivity, social anxiety, and experiential avoidance as components of interpersonal sensitivity. According to their findings, rejection sensitivity is the cognitive aspect of it, while avoidance is the behavioral component. Social anxiety covers all the components, namely cognitive, behavioral, and motivational.

While being components of a bigger construct, several empirical studies have also shown possible relationships among the three. A number of studies state that experiential avoidance leads to social anxiety, but is contextual in nature. As well, rejection sensitivity correlates with both experiential avoidance and social anxiety. This is consistent with the assumption of cognitive behavioral theory that cognitions, behaviors, and emotions interact with each other.

Thus, rejection sensitivity, social anxiety, and experiential avoidance have been deemed related to each other by scholars. Despite the established relationships among these, no literature has yet explicated direct relationships among them. Given the theoretical assumptions and findings from the reviewed literature, this study aims to explore how these variables affect one another.

Specifically, mediation was used to concretize the framework of cognitive behavioral theory.

It has been mentioned earlier that social anxiety stems from dysfunctional beliefs which then leads to unhelpful reactions. Thus, depending on the individual's level of rejection, he/she tends to create ways to avoid this feeling, which then leads to anxiety. This assumption emphasizes that one's reactions explains one's cognition, which in turn affects one's state of emotion.

In choosing the role of the three identified concepts, other assumptions have been taken into consideration. First, social anxiety is sub-classified into two distinct types – performance and social interaction. In order to narrow down the results, only a particular type of social anxiety was used in this study. Since the concepts deal mostly with interpersonal expectations and behaviors, social interaction anxiety is better represented. Second, in utilizing the assumption of cognitive behavioral theory on the emergence of social interaction anxiety, experiential avoidance serves as the mediator because rejection sensitivity is the cognitive component of IS, while experiential avoidance is the behavioral component of IS. Figure 2 shows the conceptual framework of this study.

On the other side, it is also important to note that this study did not account for other factors (e.g. socio-demographics, family background and history, prior experiences) that might play into the relationship of these concepts, because this study looked at the mediating role of experiential avoidance as a behavioral manifestation of one's level of rejection sensitivity, which in turn leads to social interaction anxiety.

Under the theoretical underpinning of cognitive behavioral theory and the research gaps in literature, this study aimed to answer the following questions: (1) how does rejection sensitivity affect social interaction anxiety? (2) how does experiential avoidance mediate the relationship between rejection sensitivity and social interaction anxiety? And (3) how does rejection sensitivity affect social interaction anxiety when the relationship is mediated by experiential avoidance? From the above research questions, it is hypothesized that (1) there is a significant positive correlation between rejection sensitivity and social interaction anxiety; (2) experiential avoidance significantly mediates the relationship between rejection sensitivity and social interaction anxiety; and (3) when experiential avoidance mediates the relationship between rejection sensitivity and social interaction anxiety, the relationship becomes non-significant – a full mediation.

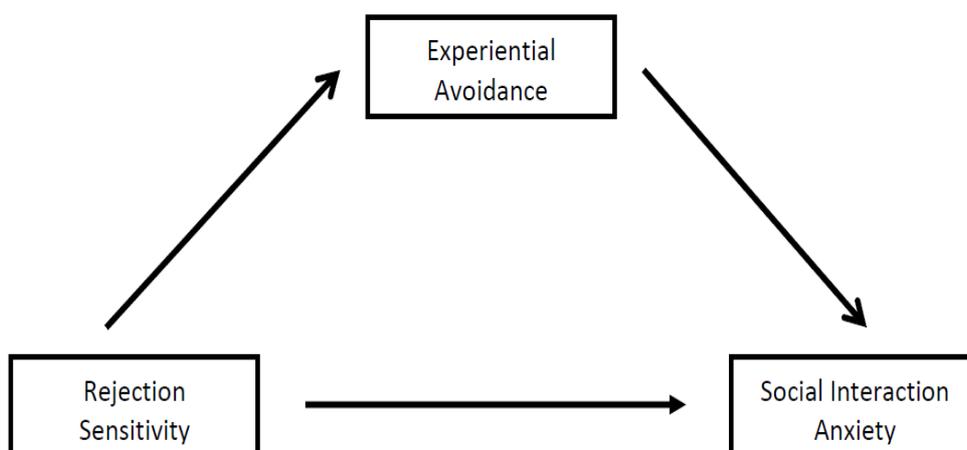


Figure 2: Conceptual Framework of the Study

Method

Research Design

A cross-sectional, explanatory design was used in this study. Three variables were measured using scales that were used in previous studies and were found to be reliable: (1) rejection sensitivity as the independent variable, (2) social interaction anxiety as the dependent variable, and (3) experiential avoidance as the mediator.

Sample and Sampling Design

There were 159 participants in the study, which included undergraduate students from some of the universities within the National Capital Region. Majority of them study in De La Salle – College of Saint Benilde (31%), De La Salle University – Manila (15%), PATTS College of Aeronautics (14%), and University of Santo Tomas (8%). Also, there were 89 females (56%) and 70 males (44%) who participated in the study. 56% of them are aged 18 and 19 ($M = 19.29$, $SD = 2.89$) and reside in the NCR (74%).

Instruments

Acceptance and Action Questionnaire II (AAQ-II; Bond, Hayes, Baer, Carpenter, Guenole, Orcutt, Waltz, & Zettle, in press). Using a seven-item, one-factor scale, experiential avoidance was measured by rating the statements from 1 (never true) to 7 (always true). Sample items include “I’m afraid of my feelings”; “My painful memories prevent me from having a fulfilling life”; and “It seems like most people are handling their lives better than I am.” In analyzing the reliability measure of the seven items used in the scale, a Cronbach’s alpha of 0.91 was derived which is a good indicator of the reliability of the scale.

Social Interaction Anxiety Scale (SIAS; Mattick, & Clarke, 1998). Social interaction anxiety was measured using a 20-item scale which involves statements that were rated from 0 (not at all) to 4 (extremely true). Some statements in the scale are “I find myself worrying that I won’t know what to say in social situations”; “When mixing socially, I am uncomfortable”; “I am unsure whether to greet someone I know only slightly”; and “I have difficulty talking to attractive persons of the opposite sex”. Among the twenty statements, three items were reversely scored in data analysis (e.g.: “I find it easy to make friends my own age.”; “I am at ease meeting people at parties, etc.”; and “I find it easy to think of things to talk about”). Yielded Cronbach’s alpha of 0.91 indicates that the scale is a reliable measure of the variable being measured.

Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996). Eighteen situations were cited for this questionnaire. Each situation has two sets of questions answerable by a 6-point Likert scale which aims to approximate the (1) level of anxiety and (2) perception of the participant on the possible response of the other person. Sample situations include “You ask someone in class if you can borrow his/her notes.”; “You ask you parents for help in deciding what programs to apply to”; and “You ask a friend to do you a big favor”. Measures of Cronbach’s alpha for rejection sensitivity situations, level of anxiety, and perception were 0.88, 0.91, and 0.89 respectively, which shows that the scale was a reliable instrument for measuring rejection sensitivity, given that it measures both the level of anxiety and perception of the individual in a given situation.

Procedure

The study was conducted in two modes: online and manual survey. For the online questionnaire, the survey – which included the informed consent and the three instruments – was made via Google Forms and linked to social media networks. For the manual survey, parcels containing the informed consent and the three instruments were handed over to qualified participants.

Results were encoded and cleaned through Microsoft Excel while data analysis was run using the Statistical Package for the Social Sciences (SPSS 20.0). Items that needed to be reversed were processed before computing for measures of the variables. Mean scores were derived to measure levels of social interaction anxiety and experiential avoidance. Meanwhile, for the rejection sensitivity, product between the level of anxiety and perception of the participant was first computed before getting the mean score.

Descriptive statistics (including age, university, place of residence, and sex) were also gathered for the profile of the participants, while mediation analysis was performed to test for the hypotheses of the study.

Data Analysis

After data cleaning and item reversals, scales used were validated first from the sample population using Cronbach's alpha. Since the scales yielded good results, mediational analysis was performed using PROCESS tool by Andrew Hayes, an installed plug-in software. Bootstrapping method with 5,000 resamples, and Sobel test, was used to test for the significance of the indirect effect (second hypothesis). A confidence interval of 95% was also used for the bias-corrected confidence estimates. In presenting the results of the study, unstandardized coefficients were reported to explain effects in raw units, unless otherwise stated.

Results

Three hypotheses were tested for this study. First, there is a significant positive correlation between rejection sensitivity and social interaction anxiety. Second, experiential avoidance significantly mediates the relationship between rejection sensitivity and social interaction anxiety. Third, when experiential avoidance mediates the relationship between rejection sensitivity and social interaction anxiety, the relationship becomes non-significant – a full mediation. Statistically speaking, the first hypothesis looks into the total effect of rejection sensitivity on social interaction anxiety, while the second and third hypotheses explore the direct and indirect effects in the model. To prove these hypotheses, Andrew Hayes' PROCESS tool was utilized in SPSS 20.0

Hypothesis 1 – Total Effect

In a mediation model, the total effect corresponds to path c – the effect of rejection sensitivity on social interaction anxiety, including the direct and indirect effects. Result showed that there is a significant positive relationship between the two, even though there is a weak association between them, $c = 0.04$, $t(157) = 2.35$, $p < 0.05$. Nevertheless, we accepted the first hypothesis of this study.

Hypothesis 2 – Indirect Effect

To measure the indirect effect of rejection sensitivity on social interaction anxiety, product of

coefficients of path *a* (relationship between rejection sensitivity and experiential avoidance) and path *b* (relationship between experiential avoidance and social interaction anxiety) was derived. Results showed that path *a* and path *b* indicated a positive relationship between the variables, $a = 0.09$, $t(157) = 2.64$, $p < 0.01$ and $b = 0.29$, $t(157) = 8.79$, $p < 0.00$. From these values, it can also be observed that path *b* had a greater association relative to path *a*. Despite huge discrepancies in magnitude of the beta coefficients, paths *a* and *b* were both significant.

The indirect effect, ab , was 0.03. Using the Sobel test, this effect was found to be significant, $z = 2.52$, $p < 0.05$. Bootstrapping method with 5,000 resamples and bias-corrected confidence estimates were also used to assess the indirect effect of the model. Given the 95% CI, the lower limit was 0.001 while the upper limit was 0.05. With these criteria, the second hypothesis of this study proved to be acceptable.

Hypothesis 3 – Direct Effect

Path *c* of the mediation model refers to the direct effect of rejection sensitivity on social interaction anxiety when mediated by experiential avoidance. Result showed that there is no significance, $c = 0.01$, $t(157) = 0.99$, $p > 0.05$. However, in using the enter method to do multiple regression, social interaction anxiety was predicted quite well from both rejection sensitivity and experiential avoidance with an adjusted $R^2 = .35$, $F(2,156) = 42.73$, $p = 0.00$. Hence, the third hypothesis of this study was also accepted.

The significant indirect effect and insignificant direct effect supported full mediation in the study.

Discussion

Findings of this study confirmed the three stated hypotheses, which confirmed the assumptions made by cognitive behavioral theory. Results showed that each concept had a direct significant relationship to the other concepts which provides support to Martin and Miller's (2013) study that concepts can be overarched by a bigger concept – interpersonal sensitivity. Moreover, insights on cognitive behavioral theory in the context of social interaction anxiety were further elaborated through the mediating role of experiential avoidance.

Mediating Role of Experiential Avoidance

The results of this study showed that rejection sensitivity significantly affects experiential avoidance in the same way that experiential avoidance significantly affects social interaction anxiety. Also apparent in the results of this study was the great discrepancy between the regression coefficients of path *a* ($a = 0.09$) and path *b* ($b = 0.29$). Hence, the relationship in path *b* was stronger than the relationship in path *a*. In contextualizing this to the concepts, this is possibly because experiential avoidance is not always the option to every individual perceiving threats of rejection. However, when experiential avoidance comes in, there is a great tendency for one to experience anxiety in social situations. Thereby, this supports previous literature that experiential avoidance is a form of coping among individuals, which induces anxiety in the long run (Kashdan et al., 2006).

Since experiential avoidance is a form of coping by an individual, this phenomenon would continue to persist whenever an individual perceives a particular event as a potential source of rejection. Thus, to avoid the feeling of rejection, experiential avoidance becomes an automatic behavior because it becomes a habitual way of coping with the perception of being rejected. This occurs because individuals are motivated to defend themselves against these unwanted

phenomena (Downey et al., 2004). For example, when walking a person looks down to prevent the possibility of seeing known people and being disappointed when not greeted by them. This habit may be adopted by individuals depending upon their level of rejection sensitivity. People with low rejection sensitivity may opt to still walk without looking down and in turn not greet the people they know, while others would choose to seldom go out anymore. From this, it can be seen that all these behaviors would lead to social interaction anxiety but is contextual on the level of rejection sensitivity (Kashdan et al., 2014). In other words, people employ experiential avoidance differently depending upon their level of rejection sensitivity. Thus, the assumption of contexts and coping by experiential avoidance explains its mediating role in the relationship between rejection sensitivity and social interaction anxiety.

Insignificance of Rejection Sensitivity Given the Presence of Experiential Avoidance

Results of this study showed that rejection sensitivity and experiential avoidance are predictors of social interaction anxiety. However, when experiential avoidance was played as a mediator, the role of rejection became non-significant. This finding generally states that cognition does not have anything to do with social interaction anxiety when it is already accompanied by certain behaviors. This is, in part, opposing what some cognitive-behavioral theorists propose: that both cognition and behaviors affect one's emotions.

Since experiential avoidance is seen as a habit to cope with the feeling of being rejected, it is essential to understand how habits are formed. According to Duhigg (2012), there are three steps through which habits form: trigger/cue, then routine, and then reward. Trigger leads the individual to let behavior unfold automatically, which in turn leads to the behavior itself because of the reward that this gives. This cycle goes on because certain parts of the brain have particular roles to play in the development of behaviors. According to neuroscientists, the basal ganglia is responsible for development of behavior, while the prefrontal cortex is responsible for decision making. When behaviors develop automatically, the prefrontal cortex becomes dormant, and thus there is no need to think anymore.

Similar processes occur with experiential avoidance. The perception of being rejected triggers experiential avoidance to unfold and become an automatic reaction in order to avoid the phenomenon of rejection. Since it becomes an automatic reaction, thinking becomes unnecessary; hence the non-significance of rejection sensitivity.

In general, the results of the study showed that rejection sensitivity leads to social interaction anxiety. However, when an individual chooses to employ experiential avoidance to cope with his/her perception of being rejected, their level of rejection sensitivity becomes non-significant. The cognition becomes unnecessary to lead to social interaction anxiety due to the mechanism involved in the creation of habits. Thus, it is only the behavioral component that becomes a source of anxiety for the individual.

Conclusion

Understanding the relationships among these concepts is helpful in crafting therapies to treat particular psychological and mental health problems, specifically anxiety disorders and obsessive-compulsive disorders. There have been several third-wave cognitive behavior therapies that may be modified and utilized based on the findings of this study. Specifically, an integration of psychodynamic therapy would be helpful because experiential avoidance serves as a form of coping (a defense mechanism) to one's rejection sensitivity. However, there are certain limitations of this study that must be taken into account. First, even though full

mediation was seen in the study, it is important to take note that path *a* and path *b* were stronger than path *c*. This statistical result might have contributed to the non-significance of the direct effect. Second, accounting for the mechanism of habit would actually render the direct effect to be non-significant. This being the case, there remains the possibility of the presence of other potential mediators. Thus, even though full mediation is promoted in this study, future research is encouraged to explore other mediators. Third, the population used in this study only involves undergraduate students. Typically, individuals of this age are in the period of adolescence where issues might be different from older people. Thus, future researches may consider exploring the issue with other populations. Fourth, this study does not take into consideration the presence of extraneous variables that might also be affecting the relationships among these concepts. Thus, it is also recommended for future studies to consider other environmental and socio-demographic variables that might affect rejection sensitivity, experiential avoidance, and social interaction anxiety. For example, history of mental illness in the family, socio-economic status, and coping styles may moderate the effect of mediation. Hence, a moderated mediation may be used to provide deeper understanding of the relationships.

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Facebook and Social Contagion of Mental Health Disorders Among College Students

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Abstract

Non-suicidal self-injury is growing in popularity among young people. Studies suggest that the phenomenon of social contagion may be to blame. This study explored the influence of the popular social media site, Facebook, on mental health, non-suicidal self-injury, and suicidal behavior in college students. A total of 244 undergraduate students participated in this study. Results found that Facebook can increase personal anxiety and depression, but it is more likely to increase happiness and good mood. However, for some individuals Facebook can lead to more self-injurious behavior, such as cutting.

Keywords: social media, Facebook, mental health, non-suicidal self-injury, suicidal behavior

Introduction

In recent years, there has been a dramatic increase in non-suicidal self-injury among young people. Non-suicidal self-injury (NSSI) is defined as the deliberate harming of one's body without suicidal intent, and for purposes not socially sanctioned, such as tattooing, piercing, and (International Society for the Study of Self-Injury, 2007). NSSI has become a well-known behavior among teens and young adults and research shows that between 17–40 percent of adolescents have indulged in it (Lloyd-Richardson, Dierker, & Kelley, 2007) and at least half of young people know someone who self-injures (Purlington & Whitlock, 2010). Several studies have examined possible reasons for the rise in NSSI and many have noted a “social contagion” phenomenon associated with the behavior (Brown, Fischer, Goldwich, Keller, Young, & Plener, 2017; Jarvi, Jackson, Swenson, & Crawford, 2013; Purlington & Whitlock, 2010). Social contagion theory suggests that behaviors and attitudes can pass from person to person similar to how viruses and bacteria spread symptoms through a crowd. Further, it seems that young people are particularly susceptible to social contagion as noted in the spread of fashion trends (Gladwell, 2000), drug use (Ali, Amialchuk, & Dwyer (2011), disordered eating (Rosenburg & Kosslyn, 2011), and smoking cessation (Christakis & Fowler, 2008). Social contagion of NSSI is defined as “the presence of NSSI in at least two people in the same group in a 24-hour time period” (Rosen & Walsh, 1989). Studies show that teens and young adults with mental health disorders such as depression, anxiety, eating disorders, disruptive mood disorders, and substance use are at higher risk of NSSI (Jacobson, Meuhlenkamp, Miller et al., 2008).

Results of the 2014 National Survey on Drug Use and Health (NSDUH) show that over 46 million (18.1 percent) adults age 18 or above have mental health disorders, including serious mental illness (SMI) in the U.S. And rates for adolescents and young adults are even higher at 46.3 percent and 20.1 percent respectively. Prevalence of past year SMI among college-age adults (18–25) was higher in 2014 than in 2008–2013 (NSDUH, 2014). Serious mental illnesses, as defined by NSDUH (2014), include:

- 1) “A mental, behavioral, or emotional disorder (excluding developmental and substance use disorders);
- 2) Diagnosable currently or within the past year;
- 3) Of sufficient duration to meet diagnostic criteria specified within the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*; and,
- 4) Resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities.”

Reports of major depressive episodes have also seen a recent rise among 18–25 year olds from 8.7 percent in 2013 to 9.3 percent in 2014. A major depressive episode may include feelings of intense sadness, hopelessness, fatigue, loss of interest or pleasure, and suicidal thoughts or gestures (American Psychiatric Association, 2013). Although rates of mental health disorders are increasing, only 33.6 percent of young adults with any mental illness (AMI) received some form of mental health treatment, including inpatient, outpatient, or medication in the past year (NSDUH, 2014).

The release of the Diagnostic and Statistical Manual (5th ed) or the DSM-5 in 2013 brought new and important attention to non-suicidal self-injury (NSSI) as a disorder. Leading up to its release, many experts proposed that NSSI should be a separate syndrome rather than a symptom in this newest version of the DSM (Muehlenkamp, 2005; Shaffer & Jacobson, 2009). Ultimately, however, due to a need for more research, it was not identified as a separate

condition, but was included as a *condition for further study* (American Psychiatric Association, 2013).

According to the DSM-5, the most vital feature of NSSI is repeatedly inflicting of shallow, yet painful injuries to the surface of one's body (American Psychiatric Association, 2013). Most commonly, the individual uses a sharp instrument, such as a razor, to inflict superficial cuts typically on the arms, upper legs, or abdomen. Other common methods of self-injury include burning, scratching, puncturing with a needle, or punching oneself. The purpose is described as a source of relief from emotional distress or sometimes as a form of self-punishment (American Psychiatric Association, 2013). As well, studies have found sexual abuse, loss of a parent, negative social interactions, and being around others who self-injure as “triggers” for the behavior (Laye-Gindhu & Schoner-Reichl, 2005; Akuyz., G., Sar, Kugu, & Dogan, 2005).

Recent research suggests that 17–18 percent of adolescents in the general population have engaged in NSSI (International Society for the Study of Self-Injury, 2007; Muehlenkamp, Claes, Havertape, & Plener, 2012). Among adolescents with mental health disorders, rates of NSSI average 40 percent (Jacobson et al., 2008; Kerr, Muehlenkamp, & Turner, 2010). Furthermore, Whitlock et al, 2011, referred to NSSI as also common in college populations and studies show as many as 13.4 percent of college age young adults have at some time participated in the behavior (Swannell et al., 2014). Most alarmingly, individuals who engage in NSSI are seven times more likely to make a later attempt at suicide (Guan, Fox, & Prinstein., 2012).

Self-injury seems to be more common among females, accounting for 64-77 percent (Laye-Gindhu & Schoner-Reichl, 2005; Nixon et al, 2008). However, some studies suggest males may be under identified because they are less likely to engage in commonly identified forms of NSSI, like cutting or burning, and are more likely to engage in skin picking, biting, or street fighting (Laye-Gindhu & Schoner-Reichl, 2005).

Pop-culture and social media has also helped bring attention to the prevalence of NSSI, but they may also play an important role in the social contagiousness of the behavior. An article by Purington and Whitlock (2010) pointed to a dramatic increase in media portrayals of NSSI since the 1980s. According to the authors, a Google search of “self-injury” yields over 15 million results and YouTube has over 2,000 self-injury videos (2010). Social media sites such as Facebook, Instagram and Twitter provide a forum for self-injury awareness and support, but may also serve as a place for young people to get ideas for how to engage in the behavior. Instagram, a popular social media site among young people, was the focus of a recent study by Brown, Fischer, Goldwisch, Keller, Young, and Plener (2017). They found that people who self-injure often post pictures of their injuries on Instagram. Moreover, they found that images of deeper wounds illicit more empathic comments from others thus socially reinforcing the behavior. A study by Murray and Fox (2006) found that many participants in NSSI groups on Facebook find the groups to be beneficial and 73 percent said these groups led to a decrease in their NSSI. However, this same study found that 11 percent of respondents attributed these groups with an increase in their self-injurious behavior (Murray & Fox, 2006).

According to a large literature review by Jarvi, Jackson, Swenson, and Crawford (2013), studies consistently indicate that NSSI may carry this phenomenon of social contagion. Especially for young adults and teens who are around peers who self-injure. This phenomenon has been observed in clinical settings (Nock & Prinstein, 2005) and in community settings (Nock, Prinstein, & Sterba, 2009). Swannell et al. (2010) examined self-injury sites on the

internet. Specifically, they reviewed websites dedicated to self-injury and found most sites had information intended to benefit individuals who self-injure and their families. Their search did not find any sites which overtly encouraged NSSI in its readers. However a study by Murray and Fox (2006) found that *any* content related to NSSI can lead to an increase in behavior among those who self-injure.

The purpose of this study was to examine the effects of social media on mental health and self-injury in college students. The *Self-injury and Social Media Survey* was given to a sample of undergraduate college students in order to answer the following questions:

- RQ1. Is there a relationship between mental health and Facebook?
- RQ 2. How does Facebook affect self-injury?
- RQ 3. How does Facebook affect suicidal thoughts and gestures?

Method

The *Self-injury and Social Media Survey* is a 35-item survey designed to measure the relationship between a person's mental health and Facebook experiences. This survey was developed by Davis and Pimpleton-Gray (2017). A test for internal consistency yielded an $\alpha = .85$. The survey consists of 25 likert-type items and a set of demographic items, including gender, race/ethnicity, and year in school plus five questions related to mental health diagnosis and suicidal behavior.

Sample

The survey was presented online to over 400 students enrolled in an Introduction to Psychology course at a medium-sized university in Arkansas. A total of 244 undergraduate students chose to participate in this study. Of those, 4.5 percent identified as Asian/Pacific Islander, 16.4 percent as Black/African American, 3.7 percent as Hispanic/Latino, 73.4 percent as White/Caucasian, and 2 percent as Other. The age range of the students was 18–40 with a mean age of 19.6; 172 were female and 72 male.

Each participant was asked to describe the mental health of their Facebook friends using a Likert-type scale, for example, they were asked to respond to “I have Facebook friends who think about suicide”. They were to rate this item on a 5-point scale ranging from strongly disagree to strongly agree. A scale was used rather than a simple “yes” or “no” response so participants could have more variance in their rating. Approximately 30 percent agreed or strongly agreed they have Facebook friends with depression and 33 percent said agreed or strongly agreed to having Facebook friends with anxiety. Nearly a quarter of respondents (24.3 percent) stated they had Facebook friends who think about suicide.

Results

Research Question 1

All data were entered into the IBM statistical package, SPSS, for analysis and both descriptive statistics and t-test analyses was used to answer the research questions. The first research question which was measured was *Is there a relationship between mental health and Facebook?* Specifically, what was the effect of using Facebook on a person's mental health? Examples of these items included: “I feel less depressed when I interact with a Facebook friend who has depression”; “I feel more anxious or stressed when I interact with an anxious friend on Facebook”; “I feel comforted knowing I have Facebook friends with similar problems to

mine.” These questions primarily asked participants to rate how Facebook friends’ moods and/or mental health disorders affect their own and also whether or not they get help or support from Facebook friends when it comes to mental health. Results showed that Facebook has some effect on anxiety and depression, but it has a greater effect on happiness. Specifically, 20.6 percent of the participants said they felt more anxious because of friends’ anxious or stressful comments, and 21.7 percent felt more depressed when their friends on Facebook were depressed. On the other hand, 57.4 percent stated they feel happy when friends post happy or uplifting comments. Although the participants did agree that happy comments from friends made them feel happy too, there was little agreement with the idea that Facebook can be good for peer support. In fact, in response to the item “I feel Facebook is a good place to get peer support for my problems”, 18.1 percent disagreed and 49.1 percent strongly disagreed. Furthermore, 15.7 percent disagreed and 56 percent strongly disagreed that they get ideas for stress management from Facebook. As well, 18.3 percent disagreed and 42.8 percent strongly disagreed that their Facebook friends have helped when they feel depressed.

Help when Depressed		Stress Management		Overall Peer Support	
Strongly Disagree	42.8%	Strongly Disagree	56.0%	Strongly Disagree	49.1%
Disagree	18.3%	Disagree	15.7%	Disagree	18.1%
Neutral	18.8%	Neutral	17.1%	Neutral	12.5%
Agree	9.1%	Agree	4.2%	Agree	10.2%
Strongly Agree	11.1%	Strongly Agree	6.9%	Strongly Agree	10.2%

Table 1: *Peer support from Facebook*

Research Question 2

The second research question was *How does Facebook affect self-injury?* Survey items used to measure this question included: “I cut myself more often when Facebook friends post about cutting”; “When a Facebook friend posts about self-injury, it makes me want to injure myself”; “I have gotten ideas for how to hurt myself from Facebook.” Results showed a small percentage of participants get ideas or are influenced by Facebook friends who post about self-injury. Just 6.5 percent either agreed or strongly agreed to cutting themselves more when friends post about cutting and 6.1 percent agreed or strongly agreed that when a Facebook friend posts about self-injury, it makes them want to injure themselves. Last, 6 percent stated they got ideas about how to hurt themselves from Facebook. However, a significant relationship did exist between getting ideas for self-injury from Facebook and cutting more when Facebook friends post about cutting ($r=.71$).

Research Question 3

Finally, the last research question in this study was *How does Facebook affect suicidal thoughts and gestures?* The authors started off by asking participants about their suicidal behavior. Nearly a quarter of the participants reported suicidal thoughts. Specifically, 23 percent stated that at least once in the last year they had thought about committing suicide and 4.1 percent of the total sample stated had attempted suicide in the past. A t-test revealed no significant

differences between those who had attempted suicide and those who had not with regard to feeling more depressed because of Facebook friends' comments, cutting more often, or desire to self-injure when Facebooks friends post about self-injury.

Discussion

In 2017, Facebook had over 2 billion active members (Statista, 2017). For many people, social media has become a daily part of staying connected with friends, families, co-workers, and even strangers. According to the Pew Research Center (2014), 64 percent of those with Facebook accounts visit the site daily, and membership among teens and young adults remains high despite the growing popularity of other social media sites. The results of this study indicate that college students regularly come in contact with people with depression, anxiety, or suicidal thoughts through Facebook. As well, while many students find comfort and social support on social media there may also be a type of social contagion for vulnerable individuals when they come in contact with someone describing suicidal or self-injurious behaviors (Jarvi, Jackson, Swenson, & Crawford, 2013). According to the current study, nearly 20 percent of students reported feeling more depressed or anxious when their friends post online about personal anxiety or depression. However, 57.4 percent said that they experience an increase in happiness when their Facebook friends post happy or uplifting comments. In other words, negative experiences shared online can cause others to feel down, but more people are likely to experience a sense of shared happiness when their online friends are also happy.

One of the primary purposes of this study was to measure the impact or “social contagiousness” of posts about self-injury on Facebook. Previous studies have found that self-injury does have a socially contagious element (Jarvi, Jackson, Swenson, & Crawford, 2013; Swannell et al., 2010). This phenomenon is not unique to self-injury. It has been observed in drug use and eating disorders as well. For example, anorexia nervosa has been well documented to produce social contagion. When individuals with the disorder post images of their bodies, it can act as a “trigger” to other people also suffering from anorexia (Rosenburg & Kosslyn, 2011). Many YouTube videos featuring images of people with anorexia include a trigger warning label to alert others that they may want to avoid viewing as it could result in anorexic urges or behaviors. The results of the current study found that a significant relationship existed between getting ideas for self-injury from Facebook and cutting more when Facebook friends post about cutting. The number of participants who reported getting ideas from Facebook about how to hurt themselves was relatively low (4.9 percent), yet just over 11 percent said Facebook makes them feel more depressed. Interestingly, just over 6 online of the participants acknowledged having ever been diagnosed with Major Depressive Disorder. This means that almost twice as many people as those actually diagnosed with depression feel depressed because of Facebook.

Social media sites like Facebook are ever increasing in popularity. According to this study, Facebook may be beneficial to the mental health of many, but for some it may lead to more incidents of self-injury. Very little research has been done on this topic and more certainly needs to be done. A major limitation of this particular study was the small and limited sample size. These results may not be generalizable to the world-wide population of social media users. These authors recommend that researchers continue to study social contagion in social media.

Further, mental health professionals, educators, and prevention specialists need to be aware of the influence of social media in the lives of young people, and prevention experts need to target social media friends in the same manner as they would other “peers” when talking to teens and young adults about social circles and personal mental health. Mental health professionals have long known that friends, family, and acquaintances influence their clients' behavior and

emotions; treatment plans generally include a social support component. Yet, social media may be so new that it is being overlooked. Professionals need to ask young people about their online social activity and encourage them to seek mentally healthy online relationships. Social media is not going away any time soon, and professionals need to include this virtual world of friends as part of their clients' social circles.

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Gender Role Strain and the Psychological Health of Filipino Gay Men

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Abstract

Gender role strain (GRS) has been shown to be associated with psychological health of men. However, research has focused on White, middle-class, heterosexual males in the U.S. Studies on how this phenomenon occurs in Asian male groups, in their countries of origin, are limited. In this study, the research by Rubio and Green (2009) was replicated and built on; the GRS and psychological health of 205 Filipino heterosexual and gay men in the Philippines were evaluated. Analyses indicate that the GRS of Filipino gay men in the Philippines is not significantly different from heterosexual men, and that the GRS of Filipino gay men in the Philippines correlates significantly with their depression, global anxiety, stress and social anxiety. Implications for mental health practice, social policy, and future research are presented.

Keywords: gender role strain, men's psychological health, Asian masculinities

Introduction

According to Pleck (1995), gender roles involve criteria, assumptions and norms pressed by society on individuals who may or may not be capable of meeting them. As individuals try to comply with these expectations, the experiences they subject themselves to and/or their failure to actualize these standards can result in psychological distress. Pleck describes this as *gender role strain* (GRS) and it is most severely experienced by men in their engagement, or lack thereof, with masculinity norms. There are three types – *discrepancy strain*, which results from the failure to actualize one's personal masculinity ideals; *dysfunction strain*, which occurs when individuals experience detrimental side effects as they conform to masculinity norms (O'Neil, 2008); and *trauma strain*, which is the by-product of being subjected to traumatic experiences while fulfilling masculinity norms (e.g. sustaining physical abuse from an authoritarian father who imposes the masculinity ideals) (Meek, 2015).

The GRS paradigm is grounded in social constructionism, which theorizes that gender is socially developed and ever changing (Levant, 2011). Hence, part of the GRS that men experience can be accounted for by their ability to cope with these changes. For example, it has been suggested that, in the U.S., a masculinity crisis started in the 1990s, when traditional masculinity was challenged as women became more independent and society started expecting men to contribute to child rearing, do housework, and share their emotions (Levant, 1997). According to Levant (2011), men still find themselves perplexed, confused, and angry at these changes. Further, men's GRS experiences vary according to ethnicity, social class, and sexual orientation (Silverstein, Auerbach, & Levant, 2002). This is to be expected since masculinity norms are culture-specific (Kimmel & Messner, 1992). For example, in the U.S., masculinity attitudes include keeping away from feminine activities (e.g. reading romantic novels), intolerance towards homosexuality, readiness for sex, aggression, suppression of emotions, and self-reliance (Levant, Rankin, Williams, Hasan, & Smalley, 2010). In Australia, masculinity is highlighted by sports expertise, alcohol consumption, and number of sexual encounters (Hibbins, 2005). In contrast, Chinese traditional masculinity is rooted in the *wen-wu* dyad (literal translation: literary-martial), which defines masculinity based on mental and physical achievements such as good education and martial arts training (Louie, 2005). Additionally, control of men's sexual urges and acceptance of homosexuality are endorsed (Low, 2005).

Filipino Masculinity

According to Rubio and Green (2011) seven dimensions characterize masculinity in the Philippines: (1) *sense of responsibility*—demonstrated through hard work and fulfillment of commitments, and essential in Filipino boys' socialization training to become future heads of their families (Rubio, 2003; Liwag, dela Cruz, & Macapagal, 1998); (2) *family orientedness* – the definitive epitome of masculinity, which involves being a paternalistic provider and protector of one's family (Aguiling-Dalisay *et al.*, 2000); (3) *respectful deference to spouse, women, and elders* – manifested in performing courteous deeds towards women/elders and in the view that both fathers and mothers have balanced roles in family decision-making (Angeles, 2001; Bantug, 1996); (4) *integrity* – involves having strong moral principles; (5) *intellectual pursuits* – presumption that educational excellence leads to employment security, which in turn results in becoming a good family provider (Bantug); (6) *strength* (physically and emotionally) – demonstrated in pain endurance, eloquence and being able to safeguard one's honour (Rubio, 2003; Jimenez, 1983; Margold, 1995); and (7) *sense of community* – being in harmony with neighbours and coming to their aid when needed (Margold). Rubio

and Green (2009) further assert that Filipino men internalize these dimensions in two ways – to characterize what an ideal man is and to evaluate their own masculinity.

Men, regardless of sexual orientation, have been taught to assimilate their culture's masculinity norms since childhood (Good & Brooks, 2005; Schwartzberg & Rosenberg, 1998). Similarly, Filipino masculinity norms are internalized not only by Filipino heterosexual men but also by bisexual and homosexual men for reasons that include social pressures, pleasing one's parents, acquisition of material inheritance, and concealment of one's sexual identity (Lee, 2002). However, similar to other Asian homosexual and bisexual frameworks, the definitions of these sexual minorities do not translate directly within the parameters of Western concepts (Martin, Jackson, McLelland, & Yue, 2008; Tan, 1996).

Filipino Homosexuality

Rubio and Green (2009) comprehensively discussed homosexual identities in the Philippines. Briefly, there are three types: (1) *baklas*, who closely resemble the effeminate cross-dressing gay men in Western culture but who only have sex with those they perceive as heterosexual men; (2) *call-boys*, who develop sexual relationships with *baklas* for economic gain while in, or intending to be in, relationships with women, including being married (such relationships/intentions are known to and expected by *baklas*); and (3) *gays* who are in line with the masculine-looking gay men in Western culture (they travel abroad, are mostly, decent-income earners and/or belonging to the middle class).

Psychological Health

Because of the various ways that Filipino non-heterosexual male groups internalize and demonstrate Filipino masculinity ideals – for example, *backlash* being unable to meet *strength* standards because of their effeminacy – it can be assumed that their experiences of GRS can also vary. Research has found correlations between GRS and men's psychological health – identifying associations with depression, anxiety, stress, and lower self-esteem (Hayes & Mahalik, 2000; Rummell & Levant, 2014; O'Neil, 2008; Simonsen, Blazina, & Watkins, 2000; Skidmore, Linsenmeier, & Bailey, 2006). Low self-esteem has been asserted to be a causal and sustaining factor in social anxiety disorder (Hulme, Hirsch, & Stopa, 2012). Additionally, gay men are reported to be more socially anxious than heterosexual men, in part, due to the rejection by society that gay men anticipate because of their non-conformity to heterosexual norms (Hart & Heimber, 2001; Meyer, 2003; Pachankis & Goldfried, 2006).

However, many of the studies conducted on men's psychological health refer to heterosexual men (Mahalik & Cournoyer, 2000). Clarke, Ellis, Peel, and Riggs (2010), assert that the psychological health of homosexual and bisexual men is under-researched and what information is known from these studies is derived mostly from White, middle-class gay men in the U.S. Even those investigations that do include non-White men are studied within the context of Western settings (Lazur & Majors, 1995). Rubio and Green's (2009) research is the only study to date that investigated the psychological health and GRS of Filipino gay men who are based in the Philippines. It was found that self-identified Filipino gay men experience greater *discrepancy strain* on *family orientedness*, *respectful deference* and *integrity* compared with heterosexual men. However, their overall *discrepancy strain* scores did not correlate with any of the psychological health measures used, which suggest that for Filipino gay men, *discrepancy strain* may not result in psychological distress. Furthermore, adherence scores – derived from Rubio and Green's (2007) Adherence Scale, which measures Filipino men's conformity to Filipino masculinity norms – correlated moderately

and negatively with depression and social anxiety. That is, the less they conform to masculinity norms, the higher their depression and social anxiety. This suggests that adherence to masculinity ideals seems to be beneficial to Filipino gay men's psychological wellbeing – an effect that appears to contradict Pleck's (1995) *dysfunction strain*, which asserts that adherence to traditional masculinity norms leads to adverse effects. Rubio and Green's (2009) study provides important evidence for the treatment of Filipino heterosexual and gay men with mental health issues. Practitioners can explore their gay clients' conformity to traditional masculinity knowing that such norms have an impact on their mental health (Haldeman, 2006; Schwartzberg & Rosenberg, 1998). Studies such as these also have the potential to influence public policy (Rubio & Green), as there is currently no legislation safeguarding LGBT people against discrimination in the Philippines (Pettis, 2007). The study was not without limitations, however: participants were students in a single university in the Philippines; group sizes were markedly unequal (43 gays and 767 heterosexuals); use of the word "wife" in measuring *family orientedness* and *respectful deference* is inapplicable to gay participants; lastly, only the total *discrepancy strain* was correlated with the psychological health measures. Correlational analyses between *discrepancy strain* scores per masculinity dimension and psychological health measures were not performed.

Current Study

The main aims of the current study are to reduce the shortage of Asian studies in both LGBT and mental health investigations and to build on the research of Rubio and Green (2009). Two hypotheses will be explored. First (consistent with Rubio & Green), Filipino gay men in the Philippines experience greater discrepancy strain on masculinity norms relating to *family orientedness*, *respectful deference to spouse, women, and elders* and *integrity* dimensions compared with Filipino heterosexual men.

Second, this study predicts that the higher the *discrepancy strain* of Filipino gay men in the Philippines, the worse their psychological health. Psychological health was evaluated by examining depression, anxiety, stress, and social anxiety. The first three were measured using the short version of the Depression, Anxiety, and Stress Scales (DASS-21: Lovibond & Lovibond, 1995). Rubio and Green (2009) used the Mehrabian Trait Anxiety and Depression Scales (Mehrabian, 1994) to assess the anxiety and depression of their participants. Here, DASS-21 was used because the scale had been validated using Asian samples, for example, Malaysians, Thais, Indonesians, and Chinese, which resulted in high reliability scores (Oei, Sawang, Goh, & Mukhtar, 2013). Moreover, DASS-21 measures stress independently of depression and anxiety. Therefore, Rubio and Green's (2009) study was further extended by not only measuring depression and anxiety, but also stress. Social anxiety was measured using the Social Avoidance and Distress Scale (SADS: Watson & Friend, 1969). *Discrepancy strain* was measured using *Filipino Adherence and Conflict with Expectations of Masculinity Questionnaire* (FACEM: Rubio, 2007).

Although Rubio and Green (2009) did not find any correlations between the *discrepancy strain* of Filipino gay men and their psychological health, the current study's prediction is justified because of the utilization of different scales to measure psychological health (i.e. DASS-21). In addition, greater *discrepancy strain* denotes a greater imbalance between a man's personal masculinity standards and his compliance to attain them – that is, his masculinity standards are higher than his adherence to them. Based on the findings by Rubio and Green, non-conformity to masculinity norms results in greater depression and social anxiety in gay men; therefore, it is logical to postulate that greater *discrepancy strain* could

be associated with higher scores in DASS-21 and SADS. Furthermore, there are studies which found gay men who reported higher GRS also reported lower levels of mental health and vice versa (Simonsen, Blazina, & Watkins, 2000; Bingham, Harawa, & Williams, 2013).

Method

Participants and Design

A total of 205 Filipino male respondents (111 self-identified heterosexual men and 94 self-identified gay men, $M_{age}=26.06$ years, age range: 18–50 years) were recruited in the Philippines. *A priori* analysis of power, using G*Power (version 3.1.9), proposed that, in order to yield statistically significant results with 80% power, sample sizes for each group should be 55 participants each. Data were collected in the capital city (i.e. Manila), other major cities (e.g. Baguio City and San Fernando City) and rural areas (e.g. Bacnotan and Bauang). Heterosexual men were randomly sampled in shopping malls, cafes and universities. Venues where Filipino gays usually frequent and are employed were visited (i.e. gay scenes, gay-friendly cafes, call centers and beauty parlor). A between-subjects design was adopted.

Procedure

Following consent, participants received a five-page questionnaire booklet that consisted of demographic information followed by the FACEM, DASS-21 and SADS questionnaires in that sequence. The participants completed the questionnaires individually (with no time limit) while the researcher waited in a designated area. After completion, participants were debriefed.

Measures

Demographic Information

Age and sexual orientation were collected. *Filipino GRS*. Rubio's (2007) *Filipino Adherence and Conflict with Expectations of Masculinity (FACEM) Questionnaire* (Appendix D) was used to measure the participants' conformity to the seven dimensions of Filipino masculinity (measured by the Adherence Scale) and their attitudes regarding the characteristics of the ideal Filipino man (measured by the Expectations Scale). The FACEM is a 140-item self-report questionnaire with a 6-point Likert scale. The adherence scale ranges from 6 (very much like me) to 1 (very much unlike me); while the expectations scale ranges from 6 (strongly agree) to 1 (strongly disagree). Each scale contains 10 items per dimension (70 total), paired in both scales. For example, "I am dominant" in the Adherence Scale is matched with "A Filipino man should be dominant" in the Expectations Scale. However, Rubio's (2007) scale was updated such that the word "wife" was replaced by "partner". In line with Rubio and Green (2009), GRS was determined by *discrepancy strain*, which was calculated by subtracting Adherence Scale total scores from Expectations Scale total scores per dimension. The overall *discrepancy strain* was determined using total scores of all dimensions combined.

Psychological Health

The short version of the *Depression, Anxiety, and Stress Scales* (DASS-21: Lovibond & Lovibond, 1995) was used to measure psychological health. This is a 21-item questionnaire with a 4-point Likert scale that evaluates depression, stress and anxiety (Appendix E). Each scale has seven items. For each item (e.g. "I felt life was meaningless" – depression scale), participants indicated the extent to which they have experienced the scenario within the past

week: 0 denoted “never”; 1 – “sometimes”; 2 – “often”; and 3 – “almost always”. Total scores per scale were calculated by summing their responses.

The *Social Avoidance and Distress Scale* (SADS: Watson & Friend, 1969) is a 28-item ‘true’ or ‘false’ questionnaire and was utilized to assess social anxiety (Appendix F). Fifteen of the items were expected to be answered as ‘true’, for example, “I try to avoid formal social occasions”, and thirteen items as “false”, e.g. “I find it easy to relax with other people”, by socially anxious participants. One point was given for every participant’s answer that coincided with those of a socially anxious person. Total scores were calculated by summing their points.

Statistical Analyses

Statistical analyses were carried out using the IBM Statistical Package for the Social Sciences (SPSS), Version 23.

Tests of validity and reliability of the scales used were beyond the scope of this project but are addressed by other studies elsewhere – for example, for DASS-21, see Oei, Sawang, Goh, & Mukhtar (2013); for SADS, see Norasak-kunkit and Kalick (2002); for FACEM, see Rubio (2007). Rubio reported excellent internal consistency reliability (with Cronbach’s alphas ranging from .94 to .97) for the FACEM’s Adherence, Expectations and Conflict (the discrepancy between Adherence and Expectation) Scales.

Results

Table 1 outlines the mean scores and standard deviations reported by all participants in the FACEM and psychological health measures.

Variable	Heterosexuals (N=111)		Gays (N=94)	
	Mean	SD	Mean	SD
FACEM Adherence Scale	345.81	36.75	336.18	46.05
Sense of Responsibility	48.79	6.00	48.87	7.40
Family Orientedness	51.43	6.53	45.53	8.21
Respectful Deference	51.14	5.91	48.23	7.55
Integrity	49.26	5.98	48.93	6.85
Intellectual Pursuits	48.21	6.56	49.04	8.02
Strength	48.12	6.06	47.55	7.89
Sense of Community	48.86	5.70	49.09	7.09
FACEM Expectations Scale	377.48	27.52	362.40	42.11
Sense of Responsibility	54.77	4.14	53.50	6.63
Family Orientedness	53.67	4.95	49.19	7.80
Respectful Deference	54.37	4.28	51.84	6.91
Integrity	55.11	3.96	53.94	5.72
Intellectual Pursuits	53.21	5.23	51.32	7.56
Strength	52.59	5.30	50.37	7.44
Sense of Community	53.77	4.63	52.24	7.03
FACEM Discrepancy Strain	39.81	26.70	38.48	29.13
Sense of Responsibility	6.82	5.20	6.01	5.49
Family Orientedness	4.52	5.15	6.00	6.37
Respectful Deference	4.72	4.50	5.05	5.96
Integrity	6.48	5.67	5.86	5.47
Intellectual Pursuits	6.21	4.94	4.89	4.94
Strength	5.41	4.51	5.46	5.31
Sense of Community	5.65	5.02	5.20	4.63
DASS-21 Depression Scale	6.32	3.95	6.57	4.46
DASS-21 Anxiety Scale	6.84	4.06	7.18	3.98
DASS-21 Stress Scale	6.92	3.76	7.53	3.77
SADS	11.37	5.26	10.90	5.50

Table 1. Summary of means and standard deviations (SD) of the FACEM Scales and dimensions, DASS-21 Scales, and the Social Avoidance and Distress Scale for Filipino Heterosexual and Gay Men.

Heterosexual and Gay Men in the Philippines and Discrepancy Strain

Independent-samples t-tests were performed to examine the differences in the *discrepancy strain* scores per masculinity dimension between Filipino heterosexual and gay men. Table 2 outlines the independent-samples t-test values for the *discrepancy strain* scores per masculinity dimension. Results are as follows:

Levene's test of equality of variances showed homogeneity of variances, $F(1, 203)=0.40$, $p=0.53$ non-significant. Comparison of group means indicated that there were no significant differences in the *discrepancy strain* scores on the *sense of responsibility* dimension between heterosexual and gay men, $t(203)=1.08$, $p=0.28$.

Levene's test of equality of variances showed homogeneity of variances, $F(1, 203)=1.09$, $p=0.30$ non-significant. Comparison of group means indicated that there were no significant differences in the *discrepancy strain* scores on the *family orientedness* dimension between heterosexual and gay men, $t(203)=-1.83$, $p=0.07$.

Levene's test of equality of variances test showed homogeneity of variances, $F(1, 203)=0.43$, $p=0.51$ non-significant. Comparison of group means indicated that there were no significant differences in the *discrepancy strain* scores on the *respectful deference* dimension between heterosexual and gay men, $t(203)=-0.45$, $p=0.65$.

Levene's test of equality of variances showed homogeneity of variances, $F(1, 203)=0.27$, $p=0.60$ non-significant. Comparison of group means indicated that there were no significant differences in the *discrepancy strain* scores on the *integrity* dimension between heterosexual and gay men, $t(203)=0.79$, $p=0.43$.

Levene's test of equality of variances showed homogeneity of variances, $F(1, 203)=0.06$, $p=0.81$ non-significant. Comparison of group means indicated that there were no significant differences in the *discrepancy strain* scores on the *intellectual pursuits* dimension between heterosexual and gay men, $t(203)=1.90$, $p=0.60$.

Levene's test of equality of variances showed homogeneity of variances, $F(1, 203)=2.33$, $p=0.13$ non-significant. Comparison of group means indicated that there were no significant differences in the *discrepancy strain* scores on the *strength* dimension between heterosexual and gay men, $t(203)=-0.06$, $p=0.95$.

Levene's test of equality of variances showed heterogeneity of variances, $F(1, 203)=0.06$, $p=0.80$ non-significant. Independent-samples t-test showed that there were no significant differences in the *discrepancy strain* scores on the *sense of the community dimension* between heterosexual and gay men, $t(203)=0.66$, $p=0.51$.

In summary, these findings do not support the prediction that Filipino gay men in the Philippines experience greater *discrepancy strain* on masculinity norms related to *family orientedness*, *respectful deference* and *integrity* than their heterosexual counterparts. Additionally, no other significant differences were found with regard to the rest of the masculinity dimensions.

Comparison Groups	Sense of Responsibility	Family Orientedness	Respectful Deference	Integrity	Intellectual Pursuits	Strength	Sense of Community
Heterosexual & Gay Men	1.08	-1.83	-0.45	0.79	1.90	-0.06	0.66

* $p < .05$ significant; none found.

Table 2. Summary of independent-samples t-test values of the discrepancy strain scores for each masculinity dimension

Gay Men: Discrepancy Strain and Psychological Health

A one-tailed Pearson correlation test was conducted to investigate whether the *discrepancy strain* scores of gay men are associated with their scores in the psychological health scales. There were no outliers in the data. The sample size of 94 is above the minimum required of 30; therefore, there is sufficient information to proceed with the analysis. Table 3 summarizes the correlation coefficients between the *discrepancy strain* scores for every masculinity dimension and the psychological health measures.

The scores in the depression scale of Filipino gay men correlated positively and significantly with scores in the *discrepancy strain* of all seven dimensions – *sense of responsibility* ($r = .11$, $p = .029$), *family orientedness* ($r = .11$, $p = .032$), *respectful deference* ($r = .15$, $p = .005$), *integrity* ($r = .17$, $p = .002$), *intellectual pursuits* ($r = .16$, $p = .004$), *strength* ($r = .19$, $p = .001$), and *sense of community* ($r = .14$, $p = .011$). The higher the DS scores of Filipino gay men in these dimensions, the higher their scores in the depression scale.

The scores in the anxiety scale of Filipino gay men correlated positively and significantly with scores in the *discrepancy strain* of *respectful deference* ($r = .10$, $p = .047$) and *intellectual pursuits* ($r = .13$, $p = .016$). The higher the *discrepancy strain* scores of Filipino gay men in these dimensions, the higher their scores in the anxiety scale. All other correlations were non-significant ($p > .05$).

The scores in the stress scale of Filipino gay men correlated positively and significantly with scores in the *discrepancy strain* of six dimensions – *sense of responsibility* ($r = .10$, $p = .045$), *family orientedness* ($r = .12$, $p = .021$), *respectful deference* ($r = .13$, $p = .013$), *integrity* ($r = .11$, $p = .028$), *intellectual pursuits* ($r = .16$, $p = .003$), and *strength* ($r = .14$, $p = .008$). The higher the DS scores of Filipino gay men in these dimensions, the higher their scores in the stress scale. The correlation between the scores in *sense of community discrepancy strain* and stress scale was non-significant ($p > .05$).

The scores in the social anxiety scale of Filipino gay men correlated positively and significantly with scores in the *discrepancy strain* of six dimensions – *sense of responsibility* ($r = .12$, $p = .022$), *respectful deference* ($r = .13$, $p = .014$), *integrity* ($r = .20$, $p < .001$), *intellectual pursuits* ($r = .19$, $p = .001$), *strength* ($r = .20$, $p < .001$), and *sense of community* ($r = .16$, $p = .004$).

The higher the *discrepancy strain* scores of Filipino gay men in these dimensions, the higher their scores in the social anxiety scale. The correlation between the scores in *family orientedness discrepancy strain* and stress scale was non-significant ($p > .05$).

Overall, these findings endorse the hypothesis that the higher the *discrepancy strain* that Filipino gay men experience, the worse their psychological health is. However, anxiety appears to be more associated only with *discrepancy strains* relating to *respectful deference* and *intellectual pursuits*.

Discrepancy Strain Scores	Depression Scale	Anxiety Scale	Stress Scale	SADS
Sense of Responsibility	.11*	.05	.10*	.12*
Family Orientedness	.11*	.06	.12*	.06
Respectful Deference	.15*	.10*	.13*	.13*
Integrity	.17*	.06	.11*	.20*
Intellectual Pursuits	.16*	.13*	.16*	.19*
Strength	.19*	.08	.14*	.20*
Sense of Community	.14*	.05	.06	.16*
Total	.19*	.10*	.16*	.20*

* Correlation is significant at the 0.05 level

Table 3. Correlation coefficients between the discrepancy strain scores per masculinity dimension and psychological distress scales

Power Analysis

Post hoc analysis of power using G*Power (version 3.1.9) indicated that the study's sample size had a 97.19% power in yielding statistically significant results.

Discussion

Filipino Gay and Heterosexual Men in the Philippines and GRS

One of the objectives of this study was to build on the research of Rubio and Green (2009), which found that Filipino gay men experience greater *discrepancy strain* on *family orientedness*, *respectful deference*, and *integrity* norms than heterosexual men. This finding was not supported in the current study, i.e. no significant difference was found. Rubio and Green assert that, with regard to *family orientedness* and *respectful deference*, the reason for their finding could be the use of the word "wife" in the masculinity scales (e.g. *family orientedness*: "I would take care of my wife and children"; *respectful deference*: "I would do everything to please my wife"). Possibly, gay participants gave these items low ratings in the adherence scale because they could not relate to them. In the current study, "wife" was replaced by "partner", which could have made these items more applicable to Filipino gay men because "partner" could refer to either gender. Gay men may have internalized these dimensions by envisioning male partners. This could explain why their *discrepancy strains* were not significantly different to heterosexual men; perhaps both male groups view *family orientedness* and *respectful deference* norms similarly when the gender of the "partner" is in

line with their own sexuality. It is proposed that future studies investigate whether these target words (i.e. ‘wife’ and ‘partner’) do influence Filipino gay men’s perception on traditional Filipino masculinity norms.

With regard to the *integrity discrepancy strain*, the lack of support from the current study to Rubio and Green’s (2009) findings could be attributed to sampling methods. In the current study, gay participants were recruited from venues where Filipino gays usually frequent and are employed (e.g. Gay scene, call centers, etc.) while Rubio and Green’s researchers recruited participants from a single university established by a Roman Catholic missionary. The *integrity* scale includes items such as “I am honest at all times” and “I am always trustworthy”. Perhaps being surrounded by gay fellows and friends in an environment where gay men could be themselves, as with the case in the current study, contributes to feelings of honesty, trustworthiness, and genuineness. Supporting this notion is a study by Riggle, Whitman, Olson, Rostosky, and Strong (2008), which found that gay men who are out, have strong positive relationships with others, have established friendships, and who belong to a community are able to live more authentic, honest and truthful lives. Furthermore, they are able to serve as positive role models for others who are still struggling with their identities. Conversely, recruiting participants in an environment dominated by heterosexuals (i.e. a Roman Catholic university) may have involved gay subjects who are either not out, and therefore are dishonest about their identity, or are out, but have to limit their behavior in order to avoid homophobia (Lasser & Tharinger, 2003); thus, feelings of integrity may be lower in these participants. Consequently, it is possible that gays in the current study were able to internalize the *integrity* norms as heterosexual men do.

GRS and Psychological Health of Filipino Gay Men

The second objective of this study was to examine whether the increased discrepancy strain is associated with poorer psychological health in Filipino gay men. In Rubio and Green’s (2009) research, overall discrepancy strain did not correlate with any of the psychological health measures. This finding was not replicated in the current study, perhaps because of the different psychological measures used. Instead, *discrepancy strain* in all seven masculinity dimensions correlated positively and significantly with depression, while *discrepancy strain* in six out of the seven masculinity dimensions correlated positively and significantly with stress and social anxiety. As proposed by Pleck (1995), *discrepancy strain* results from the disparity between one’s masculinity ideals and adherence to such ideals. For Filipino gay men, strongly endorsing traditional masculinity ideals, but failing to fulfill them in actuality is related to their depression, stress, and social anxiety. This coincides with previous research (Simonsen, Blazina, & Watkins, 2000; Skidmore, Linsenmeier, & Bailey, 2006; Bingham, Harawa, & Williams, 2013) and suggests that adherence to masculinity norms may be important to the psychological health of Filipino gay men. There are two likely explanations for this. First, adherence to masculinity norms can be a coping mechanism for gay men (Sánchez, Westefeld, & Liu, 2010). Perhaps by adhering to masculinity ideals, Filipino gay men are able to avoid negativity from society, thereby ameliorating stress, social anxiety, or depressive tendency. Second, the Filipino gay identity is characterized by the preference to be perceived as masculine by the public and to be disconnected from being identified as *bakla* (Rubio & Green, 2009). Therefore, the more they conform to masculinity norms, the more they might feel good about themselves. In line with this, negative feelings about oneself have been correlated with higher levels of depression, anxiety, and social anxiety (Frost & Meyer, 2009; Hulme, Hirsch, & Stopa, 2012; Pachankis & Goldfried, 2006; Szymanski & Gupta, 2009; Valentiner, Skowronski, McGrath, Smith & Renner, 2011). The current study, however, did not perform a correlation study between the *discrepancy strain* and

psychological health of Filipino heterosexual men. Future research may consider this and compare the results with Filipino gay men.

Strengths of Current Study

One of the strengths of this research is its contribution to the limited investigations on Asians in their country of origin in both LGBT and mental health studies. Second, the sample is more balanced compared with Rubio and Green's (2009) study. The method by which the participants were recruited was also an improvement. In Rubio and Green's study, students of a Roman Catholic university in single city were recruited and completed the questionnaires within university grounds. In the current study, participants were recruited in various locations in both rural and urban areas. Furthermore, the participants were not limited to university age, but ranged between 18 and 50 years of age. Moreover, the places where Filipino gays usually frequent and are employed were visited. Third, the number of participants recruited was above the proposed sample size, which increased the current study's power to 97.19% in yielding statistically significant results. Finally, the correlation between *discrepancy strain* per masculinity dimension and the psychological health of Filipino gay men in the Philippines was investigated and confirmed. *Discrepancy strain* has been suggested to result in psychological distress (Levant, 2011). Hence, examining the correlation between the two is important because it is essential to identify the factors that positively and negatively affect an individual's mental health so that effective policies, treatment and intervention strategies could be developed (Meyer, 2003).

Implications of Findings

The findings of this study provide implications for mental health practice. In any therapeutic work, especially in counselling, for example, professionals are presented with unique challenges when engaging with male clients because not only are they likely to have some reluctance about seeking help and struggle to share their thoughts and feelings, but also find it difficult to form therapeutic relationships with others (Kingerlee, Woodley & King, 2016; Nahon & Lander, 2010). Thus, having an insight on the impact of Filipino gay men's engagement with traditional masculinity ideals in their mental health could provide a starting point in building rapport. Mental health professionals could look into the influence of their Filipino gay clients' adherence to masculinity norms on their mental health. They could assess which dimensions are most influential and plan strategies accordingly.

The findings can also aid therapists in assessing and informing their own biases. It has been suggested that therapists, even with their good intentions, may sometimes feel challenged when dealing with client groups whose cultural backgrounds or sexual orientation are different from their own because unexpected biases may emerge in the course of their therapeutic work. (Goldenberg & Goldenberg, 2012). A therapist raised in a society where it is not unusual for family members to be independent from each other may have unforeseen biases towards a gay client whose views on masculinity drives, if not compels, him to support his parents, siblings and extended family members; and that such drive may be negatively affecting his mental health. Regular examinations of one's thoughts and feelings about diverse client groups could help therapists overcome their biases (Ponterotto, Casas, Suzuki & Alexander, 2010). By knowing beforehand how Filipino masculinity norms interact with the psychological health of Filipino gay clients, therapists may be better equipped to provide them with good quality of care.

In the current study's findings the fact that no significant differences were found in the *discrepancy strains* between Filipino gay and heterosexual men on any of the Filipino

masculinity dimensions seems to be a significant finding in itself because it suggests that both male groups experience *gender role strain* similarly. Although further research is necessary to investigate this phenomenon in more detail, there are clear implications for legislation and mental health practice. The outcome that Filipino gay men internalize masculinity norms relating to the family similarly with their heterosexual counterparts provides evidence in favor of implementing policies to protect and recognize same-sex families in the Philippines. Currently, there are no laws that promote same-sex partnership or marriage in this country. There are also no provisions that support the adoption of children by same-sex couples. If it is vital to the psychological well being of Filipino gay men to fulfill their family aspirations, then it is within the interest of the Filipino society to do its best to ensure that they are supported. Research has shown that individuals with positive mental health have increased productivity at work, have better relationships with other community members and have more social involvement (Dewa, Lesage, Goering, & Caveen, 2004; Ellis, 2007; McLaren, Jude, & McLachlan, 2007; 2008; Perez & Wilkinson, 1998). Therefore, increasing the wellbeing and mental health of all people, regardless of sexual orientation, appears to be good for the society.

Conclusion

This study contributes to the limited research that has evaluated the association of GRS with the psychological health of Asian gay and bisexual men in their countries of origin. The need for studies like this has been emphasized by various researchers (e.g. Clarke et al., 2010; Lazur & Majors, 1995). In the Philippines, this is only the second investigation involving gay men. The results, which found significant correlations between the GRS and psychological health of Filipino gay men provide valuable implications for mental health practice involving Filipino male clients and support for pro-LGBT therapies and legislation in the Philippines.

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Marital Closeness: Psychological Differences among Ibibios and Yorubas of Nigeria

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Abstract

The paper investigated marital closeness between two Nigerian socio-lingual groups: the Ibibios and the Yorubas, using a number of psychosocial factors as independent variables. Two comparative studies with 129 and 91 participants respectively, were carried out using the survey design. Correlation analysis indicated that attachment style and attitude towards marriage, as psychosocial variables, showed no relationship with marital closeness in the two cultural settings. However, there was a significant relationship between marriage work with friends and marriage work with spouse and marital closeness in the Yoruba and Ibibio cultural groups respectively. A test of prediction in the direction of marriage work was then performed using the Analysis of Variance (ANOVA) in the two cultural settings. Results indicate that though marriage work was important within the two groups, marital closeness was more significantly enhanced by marriage work with friends in the Yoruba group than with marriage work with spouse. On the other hand, marriage work with spouse significantly promoted marital closeness among the Ibibios more than marriage work with friends. Further analysis using hierarchical regression confirmed these results, with an additional explanation that marital closeness was independent of the length of marriage and age of marital partners. It was recommended that couples' routine promotion of balance in honest exchanges between their friends and spouses will serve as a reservoir of wellness in their union.

Keywords: marital closeness, attitude towards marriage, marriage work, attachment style, psychosocial differences

Introduction

Relational closeness is typically considered an indispensable feature of romantic relationships (Goodboy & Booth-Butterfield, 2009). Among several forms of relational issues, closeness seems to be the most problematic. The idea of marital closeness, though legendary, has in the past two decades been elucidated by the self-expansion model of motivation and cognition in close relationships (Aron & Fraley, 1999; Aron, Lewandowski, Mashek & Aron, 2013). Accordingly, closeness refers to having cognitive interdependence with a relational partner, promoting a connection between self and other inclusion (Aron, Aron, Tudor & Nelson, 1991; Aron, Mashek & Aron, 2004). It postulates that expanding one's self or self-efficacy is a fundamental human motive, and that one of the ways in which this is accomplished is through caring and close relationships (Clark, 2011; Clark & Mills, 2012; Clark, Dubash & Mills, 1998; Impett, Gordon, Kogan, Oveis, Gable & Keltner, 2010). Marital closeness describes levels of intimacy between a spouse and his or her partner. In the social psychology of marriage, closeness is conveniently explained from three utility perspectives, including (a) having one's spouse as confidant, (b) perceiving one's spouse to be a source of emotional support, and (c) the reciprocity between spouses' report of marital closeness (Tower & Kasl, 1996; Tower, Kasi & Darefsky, 2002).

Closeness in the marital context can be likened to what Grote and Frieze (1994) defined as "friendship-based love", which derives in part from perceptions of the spouse as a friend and represents a continuum-based conceptualization encompassing the extent to which perceptions and feelings of one spouse are positive and reciprocated by the other. In a study of marital closeness among elderly couples in Connecticut using secondary data from the Yale Health and Aging project, Tower and Kasl (1996) suggested that marital dyads in which spouses are mutually close may conveniently be placed on a continuum. On one end of it are mutually close spouses and at the other end are mutually distanced ones, with those in residual asymmetric category remaining in the middle. It has also been revealed that marital closeness is a complex 'amalgam' of love and commitment that can be distilled into relational constellations such as trust, honesty, friendship, and respect (for love) and loyalty, responsibility and solidarity with the other in good and bad times (for commitment). A growing body of research has shown that giving care (as exemplified in love) to others can paradoxically be rewarding for the person giving the gesture (Canevello & Crocker, 2010; Crocker & Canevello, 2008; Crocker, Oliver & Nuer, 2009; Le, Impett, Kogan, Webster & Cheng, 2012).

Feelings of closeness in marriage are derived in part from perceptions of the spouse as a friend (Grote & Frieze, 1994). In a close relationship such as marriage, the concept of closeness through self-expansion implies the degree to which an individual's self-perception overlaps his or her perception of a close other, (Aron, Mashek & Aron, 2004). This self-expansion involves the conscious inclusion of one's resources, perspectives and identities in that of the partner in order to achieve greater self-efficacy (Aron, Aron & Norman, 2001). The self expansion model assumes that individuals, especially strangers, alternately form relationships to facilitate growth and progress, such as events that provoked shared laughter and humorous experience (Fraley & Aron, 2004). In many ways, the relationship we have with other people serve as cornerstones in the construction of our self-concept (Aron, 2003). The very essence of marriage requires that husbands and wives remain close to each other, since it was the reciprocal perception of closeness that brought them together in the first place. Closeness is therefore centrally important in marriage because it helps to protect couples against separation or divorce. Nevertheless, despite the centrality of closeness as an

important ingredient in intimate relating, the dialectical experience of wanting less closeness (i.e. Something like psychological sovereignty) in an ongoing romantic relationship has been noticeably clear and has sufficiently presented as an attitude problem for marital stability. According to Mashek, Le, Israel and Aron (2011) for instance, it is not uncommon to see marital partners “opting” for individuality in what is supposed to be a partnership as demonstrated in Baxter and Montgomery’s (1996) “openness-closeness” and “autonomy-connectedness” strands of dialectical tensions. When relational partners are tossed by the push and pull of dialectical contradictions when attending to relational concerns or when they are influenced by several of the debilitating relational variables, closeness remains a negotiable outcome of such relationship.

The importance of closeness, which is akin to cognitive diplomacy in marriage, is amplified by an important research program that advances the self-expansion model of motivation and cognition in personal relationships (Aron, Aron & Smollan, 1992). This model posits that people seek to increase their potential efficacy which they seek to do through relationship, in which they include others in the self. The model also assumes that individuals ultimately form relationships to facilitate growth and progress (Aron, Norman, Aron, McKenna & Heyman, 2000).

The one-item graphical, non-verbal measure of closeness in interpersonal relationship, the inclusion of other in the self (IOS) scale, (Aron, et al, 2000) consists of seven Venn diagrams of increasingly overlapping circles labeled “self” and “other” which people readily use to construct their relationship with an “intimately” significant other. Studying closeness in relationships based on the perspective of the IOS draws theoretical explanations from the premise that the self can be socially extended to other persons (Schubert & Otten, 2002). Although studies in perception have shown that “people appear to be better social psychologists than they are self psychologists” (Balcetics & Dunning, 2013), the inclusion of other in the self is a cognitive process that integrates the self with social components of closeness with others. This supports Aronetal’s (1992) suggestion that inclusion of other in the self is the basis of relationship closeness, in the sense that one becomes close to his or her relationship partner as the partner becomes part of the self.

Attitude Towards Marriage and Relational Closeness

Marital attitudes can be defined as “the individual meaning and expectations an individual holds toward both marriage in general and their own future marital relationship (Willoughby, 2010). Attitude towards marriage can be viewed from related behaviors that include the basic marriage cognitions (personal conceptions of marital life), fear of social norms and inherent intentions to marry (Kahn, 2007). Marital closeness can be influenced by marital attitudes through the route of happiness (Ugur, 2016). According to Ugur (2016), the relationship between respect toward the partner and subjective happiness is partially mediated by marital attitudes. For example, people who have more positive divorce attitudes, experience greater conflict and less closeness in relationships (Riggio & Fite, 2006). However, more positive marital attitudes increase the probability of marriage and its longevity (Willoughby, 2014). Generally, children who grow up in households where their parents are married and have respect for their marriage, view marriage more positively than those who grow up with conflict-ridden, divorced, separated or non-married, cohabitating parents (Kahn, 2007). Whatever impressions such children form about marital life will define their own attitude towards marriage when they become adults. It is also well-known that of all milestones in life, marriage ranks among the most momentous events and its repercussions, whether positive or negative, can have enormous, far-reaching consequences in future life (Weston &

Qu 2007). Attitudes towards marriage are variously influenced by many factors in society, including fear or increasing incidence of divorce and the increasing freedom for people to choose what type of relationship they want. There are other challenging changes in marital behaviours including cohabitation, non-marital but voluntary childlessness, and increasing approval of egalitarian gender roles (Bolzendahl & Myers, 2004). These attitude dimensions can also be appraised using the self-expansion model, a work originally developed to explain a person's motivation to enter and maintain relationships.

A long tradition of research suggests that people tend to engage in social comparison in search of favorable self-esteem. This also happens in close relationships. Partner upward comparisons (comparisons to perceived superior partners) can threaten people's self-evaluations (Major, Testa & Bylsma, 1991) and lead to more negative mood (Tesser, Millar & Moore, 1998; Wheeler & Miyake, 1992). Nevertheless, when individuals are highly close to comparison others, they may empathically include those others as part of their own identity (Aron et al., 2004; Aron, Mashek, McLaughlin-Volpe, Wright, Lewandowski & Aron, 2005). When marital partners share the perspectives and resources of their romantic partners, they empathize with their spouse and are therefore able to enjoy (through reflected glory) the partner's delights and successes (Pinkus, Lockwood, Schimmack & Fournier, 2008). This relational outcome may also emerge from the interaction of partners' attachment style and "equality" of their marriage work with their spouse and friends. Nevertheless, there are partners who engage in negative reciprocity due to unfavorable (downward) comparisons with their partners. Such marriages with competitive synergies sooner or later "corrode" and crumble.

Attachment Style in Marital Closeness

The next variable of concern in this study is attachment style. Of the major contemporary relationship perspectives in social psychology, attachment theory stands out for the importance it gives to the desire for less closeness in a relationship (Mashek, Le, Israel & Aron, 2011). Attachment theory suggests that the way people respond to relationship distress is partly a product of the attachment that they developed over a lifetime of interactions with attachment figures. It also posits that a pattern of dysfunctional relationships with attachment figures during childhood can lead to psychological distress and disorder in adulthood (Scott & Cordova, 2002). A number of studies have established some association between adult attachment styles and relationship maintenance or satisfaction (Feeney, Noller & Callan, 1994; Kirkpatrick & Davis, 1994). As reasoned by many attachment theorists, the way people think and act in their intimate relationships is guided by cognitive models about themselves and significant others (Brennan & Shaver, 1995). Also, among several characteristics of attachment such as a safe haven, secure base, separation distress and proximity maintenance, each seems to be overly relevant to relationship maintenance activities. Attachment is a special element of the emotional relationship that involves exchange of comfort, care and pleasure. Attachment theory has therefore been showing some level of impact on numerous research programs (Cassidy, Jones & Shaver, 2013).

Based on consistent research findings, it becomes evident that people's attachment styles largely influence chosen relationship patterns. Since attachment styles are relatively coherent and stable patterns of emotion and behavior exhibited in close relationships, it is reasonable to expect that people with diverse attachment styles would maintain their relationships in line with differentiated patterns of emotion and behavior (Dainton, Shelley & Langan, 2003). Studies have long supported attachment styles as important tools in relationship maintenance strategies. For example, the secure attachment style compared to the avoidant attachment style has been found to use most of the relationship maintenance behaviors which include

positivity, assurance, advice, conflict management, social network, openness and sharing tasks (Pistole et al., 2010; Mikulincer & Shaver, 2007). More specifically, in these studies, secure individuals reported more frequent use of conflict management and positivity strategies than did the fearful. Shaver and Fraley (1998) have provided a two-dimensional model of individual differences in adult attachment to explain the octagonal discrepancies in human attachment neuroticism as shown in the figure below.

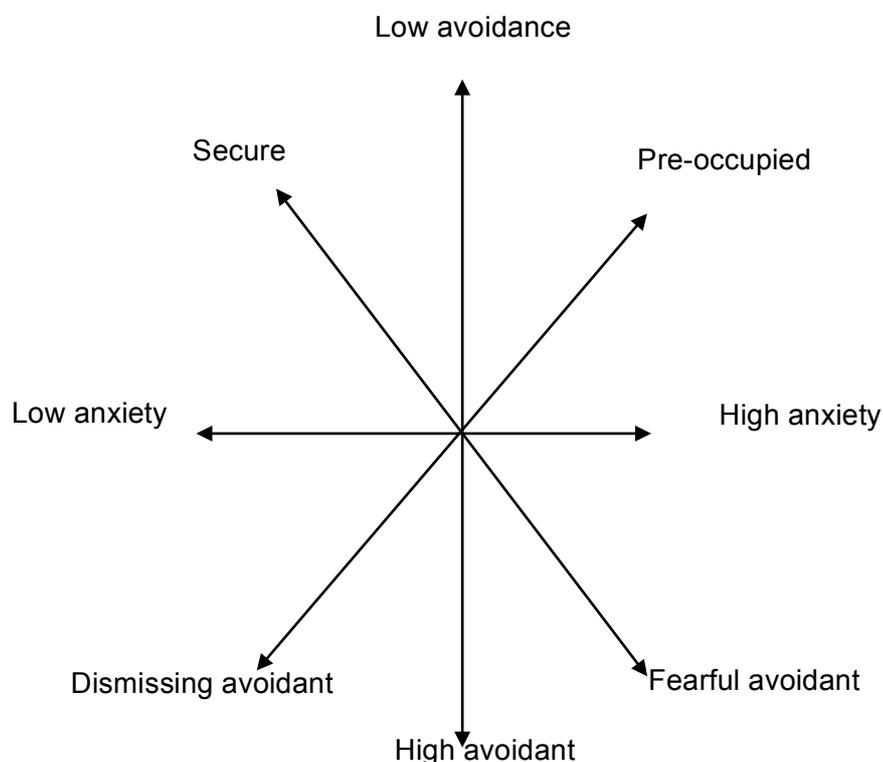


Figure 1: The two dimensional model of individual differences in adult attachment
Source: Self Report Measure of Adult Attachment (Shaver & Fraley, 1998)

Irrespective of these previous classifications, attachment has been most recently discussed as two dimensions of attachment anxiety and avoidance. A related study (Nielson, 2005) also found that secure attachment style was related to a number of love styles that support marital closeness.

Marriage Work: The Trending Pastime of Spousal or Friend-Based Disclosures

Related to attachment is the place of friendship in close relationships. Social networking as a relationship maintenance strategy requires husbands and wives to use the strength of social support and friendships to foster closeness in their union. The concept of marriage work is centered on the idea whereby spouses engage in significant levels of disclosure either with their friends (marriage work with friends) or with their spouses (marriage work with spouse). There is, however, some ambivalence concerning the role of friendships in a marital relationship. A number of frequently asked questions include whether spouses' same or opposite sex friendships fundamentally help to nurture or destroy marital relationships? In pursuit of an answer to this question, a lot of work has been done in the area of mate retention and opposite sex friendships in marital relationships and such researches point to the fact that

opposite sex friendships are likely to lead to infidelity and other traumatic afflictions that conspire to stunt a growing marriage (Fricker, 2006; Buss & Shakelford, 1997; Biec, 2008; Baumeister & Vohs, 2004; Atkins, Eldridge, Baucom & Christensen, 2005; Maner, Rouby & Gonzaga, 2008; Smith, 2007; Vohs & Lasaleta, 2008). A new trend of research has now emerged to evaluate the place of same sex friendships in a marital relationship in relation to the quality of such marriages.

Extensive research with 67 young adult females in relationship work has indicated that females engage in more frequent relationship work with friends, and that relationship work with partners increases over time (Jensen & Rauer, 2016). Relatedly, a study of 106 romantically involved young adults to determine the frequency of disclosure of romantic problems to both partners and best friends did not show any difference in frequency disclosure among males and females (Jensen & Rauer, 2014). In another study of 64 married couples, Jensen and Rauer (2015) found that both husbands and wives engaged in more marriage work with spouses than with friends, with husbands' marriage work with spouse decreasing over time.

Some directions of research have suggested that it is normative for women to garner enormous emotional support from the discussion of marital concerns with their friends and use such to enrich their health (Piferi & Lawler, 2006) as well as relationships (Harrison, 1998; Helms, Crouter & McHale, 2003). These positions differentially define the quality of marital closeness perceived by partners. Also, Proulx, Helms and Payne (2004) who explored the social context of marriage by examining the links between wives' domain-specific marriage work with friends and with spouses in relation to the perception of marital quality, found that women (wives) were equally likely to discuss marital concerns with their spouses and friends except in issues relating to finance and in-laws. This indicates that there is a trend that men and women routinely interacted with their spouse and friends in relation to marital issues but women do this more frequently with friends. The first set of studies in this direction (Harrison, 1998; Helms, et al., 2003,) examined the marriage work on a global level and found that wives engage in more marriage work with friends than with a spouse. Similarly, Proulx, Helms Milardo and Payne (2009) found that support from close friends is positively associated with wives' reports of marital satisfaction and at high level of spousal inference, support from close friends is positively associated with mother and child relationship quality.

Curiously, marriage work with friends has only been found to be beneficial in relationships where wives are already satisfied with their marriages. Marriage work with friends may therefore only help successful marriages (than unsuccessful ones) to grow more progressively (Julien, Tremblay, Belanger, Dube, Begin & Bouthiller, 2000). A complementary condition for women to benefit from marriage work with their friends is that they (wives) may simultaneously be engaging their husbands in similar discussions—a good support for the findings by Proulx and her colleagues.

The Present Study

The present study undertakes to explore closeness by examining couples' attitude towards marriage, their attachment styles and the direction of marriage work (whether people prefer to engage more in communication, on basic marital issues, with their friends or their spouses) on marital closeness. The reasoning was based on the conjecture that the verification of people's attitude towards marriage and their early attachment styles could either intersect or

merge to give direction to how they relate through the discussion of marital issues (inclusion of friend or spouse in the self), as this may, in turn, define the level of closeness or detachment from each other. The study was conceived because of the expected differences in the perception of closeness in the two settings: the Yoruba whose society is, according to Familusi (2012), endemically polygamous; and the Ibibios with their flamboyant and *joie-de-vivre* culture.

Culture and Worldview of the Yorubas

The Yorubas are known as one of the largest African ethnic groups south of the Sahara desert. They are not a single group, but rather a collection of diverse people bound together by a common tonal language, history and culture. The people are generally known to be polygamous (having more than one wife) and each wife and her children are considered a sub-family. Generally, wives compete to gain additional favors for their own children. Polygamous marriages are exceptions of Nigeria's northern (Muslim) states and through the vehicle of Islam, polygamous marriages are commonplace among the Yorubas. Study 1, therefore, took place in the densely populated Agbowo (Yoruba) Community in Ibadan. Ugwegbu (2011) describes the setting as one of the slum areas of the city of Ibadan, where the population of the inhabitants is about 65% Yoruba and 35% other ethnic groups in Nigeria, including Edo, Efik, Igbo, Ijaw, Ishan, Itsekiri and Tiv.

The setting is an emerging settlement (that hosts the University of Ibadan) whose occupants engage in various forms of small scale entrepreneurial activities to benefit from the "free market" provided by the university community (staff and students) perceived to provide one of the best pools of customers in the town. Based on this perception and the ensuing competition, a lot of illegal structures spring up to portray the settlement as a slum, thus attracting idle youths, beggars and all kinds of "hustling" activities. It is common to see men and women glued to their business outfits from dawn to dusk, raising the fear that the nexus of family relationships may, in the process, be sacrificed, even as children return to these shops in their school uniforms until their parents were ready to go home very late in the evening.

Who are the Ibibios?

The Ibibios are Kwa speaking people occupying the palm belt of Southeast Nigeria and are regarded as the most ancient of all ethnic groups in Nigeria (Noah, 1988). They are a cohesive people who, in the midst of diverse social influences (e.g. Religion), still respect civil marriage laws. They are mostly Christians and this, to a great extent, also restrains them from marrying more than one wife even when there are pockets of polygamous attachments in the community. The group's *mbopo* practice is mostly a cultural "insignia" to promote chastity and satisfaction in marriage. The people who are divided into sub-clans such as Annang, Uruan, Oron, and Eket greatly cherish the sustenance of marriage hence the escalation of *mbopo* regarded as an important relationship maintenance practice. The *mbopo* conception is a cultural rehearsal that constantly reminds women and young women in particular, of their vital role in marriage in terms of cultivating harmonious existence between themselves and their husbands. According to Ibironke (2014), the ancient tradition of *mbopo* is the training given to young women in preparation for successful marriage and motherhood while they are in seclusion. Though the period of confinement varies across cultural divides, the more popular version of *mbopo* requires the period of confinement to between 1–3 months. During this period, the young women are confined to a secluded home specifically designed for that purpose. Usually, they are not allowed to come in contact with other people

and are routinely attended to by elderly assistants, some of whom may be their relatives. At inception, the practice of *mbopo* was laced with genital mutilation which was widely believed to be a physiological “antidote” against infidelity. Apart from this psychosexual reason, other explanations to sustain the practice were sociological, such as identification with the cultural heritage. This later became controversial when religious, empathic and moral advocacies were widespread and more attention was then paid to the improvement of participants’ domestic and interpersonal skills, including trading, cooking, home decoration, hair plating and crafts. The elderly women also ensured that the participants (celebrants) are not involved in strenuous work, but were made to eat large portions of local delicacies such as *ekpang nkuwo* (a traditional porridge made coco/water yams), *yam fufu* and assorted soups such as *Ukwoho Afang* and *Edikang Ikong*. The physical appearance of the maidens was also a very important component of the *mbopo*. The women were then massaged frequently with Shea butter and other locally prepared ointments and compelled to drink various pints of water daily to improve their beauty in terms of smoothness of the body (splendour) and healthy waist line (waist-hip ratio), an important measure of beauty among women. Since this (*mbopo*) is also supported and facilitated by the men-folk, the cognitive element of the exercise slowly condenses into behavioral replications of the values by men in the long run.

Based on historically propagated antecedents and too many spaces value-dependent styles of couple interaction, the *Mbopo* is seen to be able of making a clear difference in the quality of closeness among the *Ibibios* compared to the *Yorubas*. This is because the *mbopo* rite of passage intends to keep married women psychologically, physically and intellectually moderated responsive to multifarious marital duties including chastity. This is aided by the tenets of Christianity, which supports the doctrine of monogamy in contrast to the *Yorubas* whose men are allowed by Islam to take more than one wife. Study 2 was similar to study 1, conducted around the-similar communities hosting the University of Uyo in Akwa Ibom State, while study 1 focused on the *Yorubas* with a distinct cultural background as described previously.

In the light of these, the present study sets to investigate the relationships and influence of these variables on marital closeness, especially the impact of spouses’ chosen directions of marriage work on the quality of their marital closeness. The following hypotheses are therefore proposed: (i) spouses in the *Ibibio* cultural setting will engage in more marriage work with each other than with friends due to the cultural *mbopo* practice, which serves to equip young women with internal psychosocial tools to nurture and protect strong spousal relationships; (ii) spouses in *Yoruba* cultural setting will engage in more marriage work with friends than with each other due to availability of other wives that make them to be considerably distant from their husband and cling more to friends.

Method

Study 1. Design

A survey design was used with marriage work (high or low for spouses and friends respectively), attitude towards marriage (positive or negative), and attachment style (secure or insecure) as the independent variables. The dependent variable in the study is marital closeness measured as spouses’ inclusion of others in the self.

Participants

One hundred and twenty-nine (129) respondents took part in the study, out of 168 persons surveyed. Thirty-three copies of questionnaires were not returned while 6 were excluded due to completion errors. One hundred and nineteen (119) of these were still married, 8 separated and 2 divorced. Participants were not couples, but married persons surveyed conveniently using people-in-the-neighborhood interviews. They were selected through the convenient sampling technique (also called availability or haphazard sampling). Interviewers (researchers and their assistants) moved from house (or business premises) to house to request participants to complete research measures. The sample comprised of 56 males and 73 females with a mean age of 40.11. The oldest participant was 67 years while the youngest was 22 years. The mean age of marriage was 28.02 years (minimum age = 20, maximum age = 40). The participants were between 1 – 47 years in marriage (mean = 12.15) and had between 1 – 8 children (mean = 3.08). The sample represented 78.3% Yoruba's, 15.5% Igbos, 0.8% Hausas and 5.4% others. Participants' level of education ranged from First School Leaving Certificate (FSLC) (3.9%) to Doctor of Philosophy (PhD) (1.6%) and occupational distribution included trading (45.8%), public service (29.4%) and several forms of artisan activities (24.8%).

Instruments

The main instrument used for the study was a questionnaire which had five sections ABCDE presented in English and explained in convenient languages to participants during the interview.

Section A surveyed participants' demographic characteristics.

Section B: This presented the attitude to marriage scale comprised of items drawn according to the theory of behavior that included marriage attitudes, social norms and marriage intentions. It is a 23-item scale developed by Khan (2007). Ten of the items (2, 3, 4, 6, 9, 10, 11, 13, 15 and 16) were reverse scored. The 23-item scale represents a final composite item from Khan's reliability analysis of 29 attitudes and social norms sub-scale where 16 items emerged and the original 11 social norms sub scale where 7 items were found reliable. The author reported Cronbach's alpha of .64. For the present study, Cronbach's alpha was .82.

Section C: This is an 18-item Revised Adult Attachment scale (Collins, 1996). Collins and Read (1990) earlier found that the scale items formed around three factors which they named: (1) discomfort with closeness, (2) discomfort with depending on others and (3) anxious concern about being abandoned or unloved. The internal consistency of the three factors was improved by Collins (1996) in the revised version of the Adult Attachment scale which yielded alpha coefficients ranging from .78 to .85.

Section D: The measure in this section was Helms, Crouter and McHale's (2003) scales of marriage work which contained items adapted from Huston, McHale and Crouter (1986) measure of marital satisfaction. Items were presented in two forms (D1 & D2) to tap participants' marriage work with their spouse and friends. For the present study, Cronbach's alpha for D1 (spouse) was .78 and alpha coefficient for D2 (friend) was .95. Sample items are: "How often you bring up how well the two of you (you and your spouse) talk over important and unimportant issues?" "How often do you bring up the way discussion in your family gets made and the level of influence you have in those decisions?"

Section E: This section of the questionnaire contained series of 7 Venn-like diagrams of varying degrees of overlap measuring marital closeness from the angle of inclusion of other in the self. The scale was constructed by Aron, Aron and Smolan (1992). Respondents were instructed to "please circle the picture below that best describes the participants'

relationship with their romantic partners”. A respondent’s choice is seen as a representation of the degree of closeness he or she perceives in his or her relationship with his or her partner. The authors had demonstrated that despite the difficulty of conducting an inter-item consistency for a one-item measure, the IOS has alternative form with Cronbach’s alpha of .95 for romantic relationships and test-retest validity of .85 for romantic relationships.

Procedure

The study was a survey conducted in the precincts of the Agbowo and neighboring communities hosting the University of Ibadan. Copies of questionnaires were delivered to the participants by the researcher and assistants; these were completed and returned within a time frame of one week. Participants were assured of the confidentiality of their responses at the point of obtaining consent. The survey involved administration of questionnaires and interviews. Out of the 168 copies of questionnaires administered, 129 were found adequate for analysis. While 6 were discarded for errors of completion, 33 others were not returned. The researcher approached potential participants in their different locations (households and business outlets). They were informed about the study and the need for their cooperation in order to make the exercise successful. The researcher presented the questionnaire to the interviewee and explained the mode of completion, rendering assistance where necessary. Participants’ queries were clarified for proper understanding of questionnaire items.

Data Analysis

Data were analyzed using the Statistical Package for the Social Science (SPSS) version 20. Relationships (ie, intercorrelations) among variables were examined using the Pearson Product Correlation while prediction of marital closeness was verified using the analysis of variance and multiple regression. The hierarchical regression model was also used to verify the strength of each variable in the prediction of marital closeness.

Results

From the Table 1, a number of relationships were confirmed, including very strong correlation of age with number of years in marriage and marriage work with spouse. Also, level of education was associated with number of years of marriage and socioeconomic status. Only two variables (age when married and marriage work with friends) correlated with the dependent variable, marital closeness. The hypothesized relationship between marriage work with friends and marital closeness in the Yoruba sub-culture was confirmed ($r = -.23, p < .05$).

Other bivariate relationships show that age when married correlates with participants’ actual age as well as a number of years of marriage. Number of years of marriage also correlates with attitude towards marriage just as socioeconomic status strongly, but strangely correlates negatively with level of education, a likely reflection of prevailing unemployment and underemployment due to the concentration of educated persons within the setting and the resultant poverty and low standard of living. Also, level of education correlated positively with the number of years of marriage, while marriage work with spouse correlates positively with an attitude towards marriage.

	N	\bar{X}	SD	1	2	3	4	5	6	7	8	9	10	11
1 Age	129	40.11	10.60	1	.188*	.900**	-.053	.133	.505**	-.221*	.066	-.034	-.055	.119
2 Age when married	129	28.02	4.71			-.251**	-.108	-.162	-.107	-.161	.060	-.243**	-.121	-.178*
3 No of years in marriage	129	12.15	10.50				-.030	.218*	.576**	-.140	.091	.084	.010	.162
4 Socio Economic Status	129	1.91	0.52						-.026	-.063	.038	-.118	-.078	-.012
5 Level of education	129	6.31	2.08											
6 No. of children	129	3.08	1.64											
7 Marriage work with spouse	129	65.33	15.79											
8 Marriage with the friends	129	25.19	19.88											
9 Attitude towards marriage	129	73.27	16.71											
10 Attachment style	129	51.81	13.93											
11 Marital closeness	129	6.44	1.89											

Table 1. Means, Standard Deviations and Intercorrelations of Independent Variables and Marital Closeness

In terms of prediction, since attitude towards marriage and attachment styles did not correlate with marital closeness, the main interest of investigation was shifted to marriage work. An analysis of variance (ANOVA) was conducted to further verify the influence of marriage work with friends and spouse on marital closeness.

The result is illustrated in Table 2.

Table 2. Summary Table of 2x2x2 ANOVA Showing Influence of Gender and Levels Marriage Work (with friends and spouse) on Marital Closeness among the Yorubas

Source	SS	Df	Ms	F	Sig.
Total	5533.00	129			
Gender (A)	2.46	1	2.46	1.82	>.05
Marriage work with spouse (B)	2.86	1	2.86	2.11	>.05
Marriage work with friends (C)	7.38	1	7.38	5.44	<.05
A x B	.69	1	.69	.52	>.05
B x C	.02	1	.02	.02	>.05
A x C	.54	1	.54	.40	>.05
A x B x C	.41	1	.41	.30	>.05
Error	164.09	121	1.36		

From the results, there was no significant influence of gender $F(1,121) = 1.82$; $P > .05$ and marriage work with spouse $F(1,121) = 2.11$; $p > .05$ on marital closeness. However, there was a significant effect of marriage work with friends on marital closeness $F(1,121) = 5.44$; $p < .05$.

Study 2:

Design: As in study 1, a survey design was used.

Participants: Ninety-one participants of Ibibio extraction took part in the second study. The Ibibios have a cultural practice called *mbopo* which helps to sensitize inhabitants holistically on the essential tenets of marriage. Specifically, young women are prepared for womanhood through seclusion and character training to fulfill an important cultural expectation of chastity. The ritual embodies many expressions, including beauty, opulence and moral training where a woman is wholly prepared for successful family life (Imeh, 2009). Forty-seven (51.7%) of the participants were males while 44 (48.4%) were females. Also, 82 (90.1%) were still in intact marriages, 5 (5.5%) had separated, 3 (3.3%) were divorced while one participant did not indicate relational status. The data also indicated that 88 (96.7%) were Christians, 2 (2.2%) and 1 (1.1%) were traditional worshipers and Muslims respectively. In terms of education, 32 (36.3%) had bachelor's degrees, 12 (13.2%) were higher diploma graduates, 14 (15.4%) national certificate in education, 4 (4.4%) master of business administration, 2 (2.2%) master of science and 8 (8.8%) were doctoral degree holders. The rest of the participants had lower qualifications such as elementary school certificate = 2, secondary school certificate = 7, and ordinary diploma = 9. One participant had no formal education. Occupational indicators showed 29 participants (31.9%) were engaged in various business ventures, 34 (37.4%) in the civil service, 10 (11.0%) teachers, 3 (3.3%) students, 3 (3.3%) pastors and the rest in various engagements ranging from seamen to bankers.

Instruments: The same package of measures used in study 1 was also used in the second study.

Procedure: Same as study 1 except that the second study followed after 3 weeks.

Data Analysis

The same statistics (correlations and ANOVA) were used in the data analysis. However, an additional investigation was done in the second study using the multiple and hierarchical multiple regression to examine the strength of variables after controlling for marriage duration and age of couples, factors suspected to account differently for the participants' level of marriage closeness.

Results

The Table 3 shows the bivariate correlations among the variables of the study. The results indicate a significant correlation of age and age when married and number of years of marriage. Also, socioeconomic status correlated with the participants' level of education. As hypothesized, there was a significant correlation between marriage work with spouse and marital closeness among couples in the Ibibio sub-culture ($r=.29$, $p<.01$).

S/N	Variables	N	\bar{X}	SD	1	2	3	4	5	6	7	8	9	10
1	Age	91	40.15	10.36	-	.506*	.867**	.007	.092	-.105	.019	-.015	-.098	.143
2	Age when married	91	28.20	4.94		-	.126	-.171	.064	-.009	.026	.047	-.163	.218*
3	Number of Years in marriage	91	11.67	8.36			-	.021	.001	-.035	.025	-.047	-.056	.006
4	Socioeconomic status	91	2.08	.45				-	.352**	-.008	-.030	.054	-.027	.106
5	Level of Education	91	6.08	2.05					-	.072	-.003	.232*	-.261*	.197
6	Marriage work with spouse	91	54.16	9.87						-	.278**	.124	.087	.292**
7	Marriage work with friends	91	36.41	14.77							-	-.351**	.241*	.031
8	Attitude towards marriage	91	79.73	12.28								-	-.194	.115
9	Attachment style	91	51.00	9.10									-	-.088
10	Marital Cohesion	91	6.01	1.37										-

** correlation is significant at the 0.01 level (2 tailed)

* correlation is significant at the 0.05 level (2 tailed)

Table 3. Descriptive Statistics and Bi-variate Correlation of Independent Variables on Marital Closeness

The predictive component of the hypothesis presented in Table 4. The result shows that gender and marriage work with friends did not influence marital closeness [$F(1, 83) = 3.073$; $p > .05$] and [$F(1, 83) = 0.023$; $p > .05$]. In this cultural group, marriage work with spouse showed significant influence on marital closeness [$F(1, 83) = 7.234$; $p > .05$]. This was further verified using the simple multiple regression.

Source	SS	Df	Ms	F	P
Total	3457.00	91			
Gender (A)	5.187	1	5.187	3.073	>.05
Marriage work with spouse (B)	12.210	1	12.210	7.234	<.05
Marriage work with friends (C)	.039	1	.039	.023	>.05
A x B	.112	1	.112	.066	>.05
B x C	.659	1	.659	.391	>.05
A x C	3.759	1	3.759	2.227	>.05
A x B x C	6.232	1	6.232	3.692	>.05
Error	140.089	83	1.688		

R squared = .177, Adjusted R squared = .101

Table 4. Summary Table of 2x2x2 ANOVA Showing Influence of Gender and Levels of Marriage Work (with Friends and Spouse) on Marital Closeness Among the Ibibios

From the Table 5, age, number of years in marriage, marriage work with spouse (MWS), marriage work with friends (MWF), attitude towards marriage and attachment style significantly jointly predicted couples' marital closeness ($R=.45$, $R^2 = .20$, $F = (6, 20) = 3.51$, $p<.001$). The joint prediction accounted for 20% of the variance in marital closeness. As seen in the results, three of the variables, age ($p=.64$; $t=3.22$; $p<.001$), number of years in marriage ($p=-.54$; $t=-2.73$, $p<.001$) and marriage work with spouse ($p = .36$; $t = 3.33$) $p < .001$) predicted marital closeness, with number of years in marriage affecting marital closeness negatively.

Model	B	T	P	R	R²	F	P
Age	.64	3.22	.002	.45	.20	3.51	.004
No of years in Marriage (Marriage duration)	-.54	-2.73	.008				
Marriage work with spouse	.36	3.33	.001				
Marriage work with friends	-.04	-.35	ns				
Attitude towards Marriage	.03	.25	ns				
Attachment style	-.07	-.71	ns				

Table 5. Summary Table of Simple Multiple Regression of Age, Number of Years in Marriage, MWS, MWF, Attitude towards Marriage and Attachment Style

Also, from this result it was observed that three variables – number of years of marriage, marriage work with friends and attachment style – influenced marital closeness negatively. With this result, there was the need to further understand how these variables were related in order to understand their negative strength (output) on marital closeness. Does more or less years in marriage, too much or too less interaction through social networking, or peoples' secure or insecure attachments lead to more or less closeness? To answer every aspect of this question, a hierarchical multiple regression was conducted to examine the strength of marriage work with spouse, marriage work with friends, attachment style and attitude towards marriage in predicting marital closeness, after controlling for age and marriage duration which represent demographic characteristics of couples.

Variables	R	R ²	R ² Change	F	P	β	t	p
Step 1	0.28	0.08		3.64	<.05			
Age						0.55	2.70	<.05
Marriage Duration						-0.47	-2.31	<.05
Step 2	0.45	0.20	0.124	3.51	<.05			
Age						0.64	3.22	<.01
Marriage Duration						-0.54	-2.73	<.01
Marriage work with spouses						0.36	3.33	<.01
Marriage work with friend						-0.04	-0.35	>.05
Attitude towards Marriage						0.03	0.25	>.05
Attachment Style						-0.07	-0.71	>.05

Table 6. Hierarchical Regression Analysis of Independent Variables on Marital Closeness

In the first step of hierarchical multiple regression, two predictors (age and marriage duration, making up a model) were entered. The model was statistically significant [$F(2,88) = 3.64$; $p < .05$] and explains about 8% of variance in marital closeness. After entering the marriage work with spouse, marriage work with friends, attachment style and attitude towards marriage in step 2, the total variance explained by that model increased to 20% [$F(6,84) = 3.51$; $p < .001$]. The introduction of the second set of the study's variables (predictors) explained additional 12.4% variance in marital closeness, after age and marriage duration have been controlled for (R^2 change = 0.124; $F(4,84) = 3.26$; $p > .05$). In the final model, three out of six predictor variables contributed significantly to the prediction of marital closeness, with age having the highest contribution ($\beta = .64$, $t = 3.22$, $p < .001$), followed by marriage duration ($\beta = .54$, $t = 2.73$, $p < .05$) and marriage work with spouse being the least ($\beta = .36$, $t = 3.33$, $p < .01$).

Tolerance and VIF were all within acceptable range of 0.24 to 0.91 and 1.09 to 4.19 respectively, which indicated absence of multicollinearity among the predictor variables.

Discussion

The results of Study 1 showed that age at marriage and marriage work with friends correlated with marital closeness, spouses' attitude towards marriage, attachment style and level of marriage work with their spouse, showing no correlation with marital closeness. Though the results did not support the findings (prediction) of Khan (2007), it confirms the preliminary correlations results which showed that attitude towards marriage, attachment style and marriage work with spouse (with the exceptions of marriage work with friends) were not significantly correlated with marital closeness.

However, marriage work with friends, which was found to be significantly negatively correlated with marital closeness was further investigated. This correlation result may mean that there were greater but unintended opportunities for spouses to be involved in frequent interchange with friends of the same sex in several outdoor activities in their attempts to improve family welfare. However, the negative result may have pointed to some trouble in

their marital relationship. It was then reasoned that if frequent engagement of spouses in discussion about their marriage with their friends may likely impact their marriage negatively, there was essentially the need to examine adverse aspects of self-disclosure in such interactions. A thought was also crafted along the line of gender leading to the prediction that there will be a significant influence of gender and the two levels of marriage work with marital closeness. The result of this hypothesis was partially confirmed, with the indication that neither gender nor marriage work with spouse predicted marital closeness. However, marriage work with friends was found to significantly predict marital closeness. From the results, more spouses, irrespective of gender, engaged in marriage work with their friends and this was seen to be detrimental to marital closeness. The numerous oral exchanges between these spouses may have worked against marital closeness, depending on the content. This outcome made for further probe into the socioeconomic status of the participants. From the descriptive statistics, 65.1% of the respondents reported belonging to the higher socioeconomic class, with 45.8% trading and 29.4% in public service. Seventy-eight-point three percent (78.3%) of the participants belonged to the dominant ethnic group of study. It may have appeared that several of these factors interacted to make the main variables insignificant on marital closeness. Reflecting on the non-significant result of marriage work with spouse in the study, it may be reduced that marriage work with friends on the one hand became an outlet for spouses in the study to find fulfillment from their unfulfilled marital relationships. While this continued, the care fabric of their marital relationship may have become weakened, with the resultant negative attitude towards their marriage, energized by an already existing poor attachment style and resultant poor relational exchanges in terms of quality discussions.

Existing research evidence which has supported this finding has shown that women's friendships are intricately linked with the spousal relationship (e.g. Jensen & Rauer, 2016; Jensen & Rauer, 2014; Helms et al., 2003). While it has been empirically established that whereas, men are likely to describe their friendships as activity based, women are likely than men to self-disclose especially from a wide range of topics including children, intimate relationships with others, work-related concerns and concerns about their marriage among others (Harrison, 1998). However, the present finding did not support Jensen and Rauer (2015) which found that both husbands and wives engage more in marriage work with a spouse than with friends, with husbands' marriage work with spouse decreasing over time. It was somewhat unclear whether this decline would mean an increase in marriage work with friends. The findings also partially support Proulx et al's (2004) domain-specific approach to the study of the link between marital quality and wives' marriage work with spouse and friend. Analyses revealed that women were equally likely to discuss marital concerns with their spouses and friends in all except two domains of marriage work: Family finances and relations with in-laws. Specifically selected areas: communication, support for work role, child rearing philosophies, support for parental role, social life and leisure, division of household tasks, child rearing concerns and marital decision making were indicated by respondents as areas they freely discuss about, whether with their spouses or friends, with more reservation given to the more "volatile" areas of family finance and issues with in-laws.

On the other hand, unclear attitude towards their marriages, attachment styles and distant relationships with their spouses may have led them to desire less of spousal closeness and attach more with their friends to share their marital joys and predicaments. This is in line with Mashek and Sherman (2004) who reported that college students who want less closeness in their current relationships report lower levels of relationship satisfaction. This appears as a level of learned helplessness among couples and calls for a suitable intervention program that

may be useful in redefining their marriage such that spouses will expand more towards their spouses than towards their friends. Since social support of friendship remains an additional and an essential component of progress for every marriage, spouses should take their marital relationship as the primary focus of their existence. In previous studies, although marriage work with friends were much associated with women than men (e.g. Helms et al., 2003), the present study found no gender classification for marriage work. Moreover, although Helms et al's (2003) study found that women's marriage work with their friends were beneficial to their marriage, the present study shows that both men's and women's marriage work with their friends were detrimental to their marriages. This may be due to the cultural difference between the western (individualistic) culture of their study and African (collectivist) environment which this study explored.

In Study 2, it was found that age when married and marriage work with spouse correlated with marital closeness. While the result indicated something significant about marital age and marital closeness in terms of the African environment, it pointed to something different about spousal and social support and marital closeness in the two (African) cultures investigated. There was also an observation that participants' age correlated with age when married and number of years of marriage, while level of education correlated strongly with socioeconomic status. Other results turned in the opposite direction, with spouses in the Ibibio socio-cultural setting reporting significantly higher levels of marriage work with each other than with friends. The result, as observed has supported the prediction which relied on the efficacy of the *mbopo* socio-cultural practice towards the promotion of relationship maintenance. These results may suggest that spousal friendships in the Ibibio socio-cultural setting could be enhanced by the numerous cultural expectations associated with the process of wife selection which involves multifaceted and diverse exercises interlaced with friendly rituals. Marriage work with friends, though still in practice among the Ibibios, may have been influenced by the quality of interaction existing (or expected to exist) between spouses. As shown in the result, there is no gender specialization on this component of interaction which indicates that both husbands and wives may, at one time or the other, initiate discussions capable of enriching their relationship. One of the most important findings in this study is the contribution of age and the number of years of marriage to the quality of marriage work with spouse. Although other variables (attitude to marriage, attachment style and marriage work with friends) did not show significant influence in predicting marital closeness, they however jointly contributed in different ways (positively or negatively) to the quality of marital closeness among spouses. Thus, couples' marital closeness as advanced through spouse-spouse interactions was mostly a function of their age strengthened by the number of years (experience) they have lived together.

Conclusion and Recommendations

The present study examined a number of factors considered important in ensuring marital closeness among couples in comparative settings. It has been found in the study that among factors such as attachment style, attitude towards marriage, age, marriage duration and marriage work (with friends and each other), marriage work remains the most salient determinant of spousal closeness. Although somewhat independent of age and marriage duration, marital closeness appeared to be enhanced more by marriage work with friends in the Yoruba setting. This may be explained by more outdoor activities like trading and other business engagements. On the other hand, marriage work with spouse appears to enhance marital closeness more among the Ibibios, probably due to the perceived cohesive spousal atmosphere created by the *mbopo* dynasty and the ensuing indoor engagements by every

couple. In other words, spouses in the Yoruba socio-cultural setting may have spent more time apart than they do together, thus using their network of external friendships to support their union than they do between each other. In the same way, the Ibibios appear to have exploited the socially-expected spouse-spouse togetherness to enhance closeness, since most of women's activities are located within rather than outside their homes. It is, therefore, recommended that spouses and families strive to balance family, friendships at both ends, since each aspect of support has its own salience and brilliant ecologies. Healthy unions therefore serve as marital models to new couples who will build on it to ensure the overall marital health of the society.

In relation to the Yorubas, it may be suggested that relational partners work towards optimizing the quality of their relationship by paying primary attention to the needs of their marriage even when there are diverse issues in the relationship. Repair strategies such as tolerance building and empathic joining rather than isolation or several other retaliatory behavior should be used to keep relationships alive.

Limitations of the Study

The study may have been limited by a number of factors, including the use of self-reports as well as the sample size of participants. It is well-known that self-reports have the tendency of tilting towards ensuring social desirability which may dwell on self-presentation rather than giving a true account of the situation. On the other hand, the small sample size in the two studies may not allow for outright generalization of the findings. The findings should therefore be interpreted with caution. Moreover, though cultural differences may have emerged, the time interval (about three weeks) between the two studies may still influence the responses of participants in some unclear ways.

Suggestions for Future Research

Future researchers should endeavor to address the issues of small sample as well as attempt some experiments in place of cross-sectional studies. Also, the two studies could be carried out simultaneously to allay fears about time-related limitations. In addition, the non-significant results of attitude towards marriage and attachment styles did not give a clear definition of the participants' bearing on their marriage. This may suggest that unfriendly and distant exchanges between spouses tend to increase a spouse's social networking with friends, thus reducing routine spousal interpersonal exchanges. On the other hand, it may indicate that an already existing closeness between spouses is likely to attract detrimental friendships to the union. The third possibility is that there may really be no causal relationship between marriage work with friends and marital closeness, and the observed correlation may point to the presence of a third variable such as meddlesomeness by third parties or belated regret in the choice of a spouse. To ensure the direction of causation, there may be need to go beyond these methodologies. Future research may, therefore, ensure more robust measures of these variables in order to clearly understand the direction of the findings. Moreover, it will also help to compare participants with positive attitude towards marriage and favorable attachment styles with others in the opposite groups.

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Peer Support of Students with Autism Spectrum Disorders in Higher Education Institutions by Typical Students

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Abstract

In recent times, the number of students with autism spectrum disorders (ASD) in higher education institutions in Japan has increased. As a result, some researchers have investigated the role of peer support provided by typical students in supporting students with ASD. The purpose of this study was to examine the relationship between the intentionality of peer support and the characteristics of the peer supporter, focusing on autistic traits and social support. Participants were 51 university students who responded to a questionnaire on intentionality of peer support, autistic traits, and social support. Results showed that among students with high level of autistic traits, those having more social support could more easily help students with ASD than those with less social support. Furthermore, among students with little social support, those with a low level of autistic traits could more easily help students with ASD than those with a high level of autistic traits.

Keywords: peer support, autism spectrum disorder, higher education

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Introduction

Autism Spectrum Disorders (ASD) are a group of neurodevelopmental disorders characterized by qualitative impairments in social and communication skills as well as restricted interests and stereotyped behavior (American Psychiatric Association, 2013). Choice of post-secondary education among individuals with ASD has recently received much attention from researchers, particularly their continuation to higher education institutions (Hart, Grigal, & Weir, 2010). High school students with ASD and good academic performance, tend to pursue higher education in institutions (Chiang, Cheung, Hickson, Xiang, & Tsai, 2012). As a result, the number of students with ASD in higher education institutions in Japan has also increased. The Japan Students Services Organization (2017) revealed that the number of students with ASD increased from 127 students in 2006 to 4,150 students in 2016. Attention has been paid to the ways of supporting students with ASD in higher education institutions (Sato & Tokunaga, 2006; Mori, Yamami, & Tanaka, 2015).

In Japan, there are many practices supporting students with ASD in higher education institutions (Kawasumi, Yoshitake, Nishida, Hosokawa, Ueno, Kumai, Tanaka, Anbo, Ikeda, & Sato, 2010). However, some studies have reported difficulties with these kinds of support. Kawasumi et al. (2010) revealed three difficulties, namely, difficulties in assessment of appropriate support, difficulties in specific ways of support, and difficulties in coping with students who are around students with ASD. It is necessary to resolve these difficulties in order to optimally support students with ASD.

The core of these difficulties could be that only staff members in higher education institutions in Japan have to support students with ASD who have various problems. Cai and Richdale (2015) showed that students with ASD in higher education institutions have many difficulties caused by core ASD symptoms such as social-communication difficulties, structure, routine and sensory sensitivities, and co-morbid conditions such as psychopathology, executive dysfunction, and clumsy motor skills. It has also been shown that they do not feel adequate educational and social support is offered in higher education (Cai & Richdale, 2015). Tanji and Noro (2014) also showed that in Japan, students with ASD in higher education institutions have various special needs in their studies, life skills, personal relationships, finding employment, and mental health. In addition, Tanji and Noro (2014) also found that certain staff members in higher education institutions, such as counselors, administrative staff, and teaching staff support these students' special needs. In the present situation of increased enrollment of individuals with ASD, it is quite likely that it is burdensome for these staff members in higher education institutions to support the needs of these students, and they are not adequately able to provide the educational and social support that these students need. Some researchers have paid attention to peer support provided by typical students to assist in relieving this burden and adequately support students with ASD (Tanji & Noro, 2014; Gardiner & Iarocci, 2014).

Peer Support

Peer support is defined as the provision of emotional, appraisal, and informational assistance from a social network member who possesses experiential knowledge of a specific behavior or stressor, and similar characteristics as the target population. The purpose is to address a health related issue of a potentially or actually stressed person (Dennis, 2003). Based on this definition, peer supporters who support students with ASD have experiential knowledge about required behavior in higher education institutions or stressors in their own lives, and

can support students with ASD by using this knowledge. There are three reasons why peer support of students with ASD has received academic attention. First, peer support could help students with ASD to improve their academic learning and social skills (VanBergeijk, Klin, & Volkmar, 2008; McCurdy & Cole, 2014; Watkins, O' Reilly, Kuhn, Gevarter, Lancioni, Sigafos, & Lang, 2015). VanBergeijk et al. (2008) pointed out that students with ASD did not have enough opportunities to learn about academic learning and social skills, and needed empirical support about these skills.

As mentioned above, peer supporters have knowledge about these skills, which they can impart to students with ASD. In fact, Watkins et al. (2015) pointed out that students with ASD could improve various skills required in higher education by imitating the skills other students have. Therefore, peer support is informative for students with ASD to improve their academic learning and social skills. Second, peer support could help ease the burden of staff members in higher education institutions who support students with ASD. As already stated, a single member of staff cannot support all the special needs adequately because he or she does not have enough time and adequate knowledge about the daily life of students with ASD (Tanji & Noro, 2014). These situations are believed to lead to the burden of staff members in higher education institutions. Therefore, it is necessary to ease their burden through peer support. Finally, peer support could help students with ASD achieve academic success. This is because improving their academic learning and social skills and easing the burden of staff members helps to reduce effort in their academic lives. Peer support could prevent students with ASD from truancy and psychological problems such as mood and anxiety disorders. Since students with ASD are at high risk of developing psychological disorders, it is especially important for them to live their academic lives in as healthy a manner as possible (Strang, Kenworthy, Daniolos, Case, Wills, Martin, & Wallace, 2012). Therefore, peer support is necessary for students with ASD to achieve academic success.

However, it is possible that it would be difficult for peer supporters to support the special needs that students with ASD have. Peer supporters might feel psychological reluctance, such as feeling difficulties in understanding students with ASD or difficulties in conveying their intentions to students with ASD when they support them (Neville & White, 2011). Neville and White (2011) revealed that psychological reluctance to assist students with ASD varies according to the characteristics of the peer supporters, such as experience of contact with people with ASD, personality, gender, and grade. This study suggests that psychological reluctance to support students with ASD can vary from student to student. Therefore, researchers need to reveal what personality traits make some less likely to experience psychological reluctance while assisting students with ASD. Peer supporters who also have autistic traits might be less likely to experience psychological reluctance while assisting students with ASD. Komeda, Kosaka, Saito, Mano, Jung, Fujii, Yanaka, Munesue, Ishitobi, Sato, and Okazawa (2014) examined empathy and autistic traits among 15 individuals with ASD and typically developing individuals by using sentences that described the behavior of a target character as having autistic or non-autistic traits.

Results showed that people with ASD are more likely to empathize with people with ASD than typically developing individuals. This study suggested that students who have high autistic traits could be motivated to support students with ASD because they are better able to empathize with students with ASD. However, being motivated to provide support would not be enough when peer supporters help students with ASD. This is because peer supporters need experiences of talking to other students and need to show various support skills. These

experiences depend almost entirely on the social support that he or she has. Therefore, it is likely that students who receive a large amount of social support can support students with ASD more easily because they have experience in talking to other students and demonstrating various skills.

Thus, in terms of peers supporting students with ASD, it is believed that students who have high autistic traits and a large amount of social support can support students with ASD positively. However, previous studies have not examined the relationships between the intentionality of peer support and the characteristics of the peer supporter, such as autistic traits and social support. Thus, the purpose of this study is to examine these relationships. In other words, this study hypothesizes that peers with high autistic traits who have social support are more likely to provide support to peers with ASD. Examining these relationships will contribute to understanding the support system of students with ASD.

Methods

Participants and Procedure

The participants were 51 (36 females and 15 males) volunteer undergraduate students attending a university in Japan. The mean age was 20.35 years ($SD = 0.74$), ranging from 19 to 23 years. All participants were Japanese. The questionnaire was completed during the last 30 minutes of a class in July 2016.

Questionnaires

Peer Support

To measure the extent of ease of peer support by students, the Feeling Troubles of Autism Spectrum Disorder Scale was revised (FAS; Yamamoto & Takahashi, 2009), and used in this study. The FAS is a 25-item scale consists of two subscales. Feeling troubles of social interaction refers to experiencing difficulties elicited by social interaction in actual life (e.g., “He/She is lonely because he/she has no friends.”). Feeling troubles of autistic traits refers to experiencing difficulties elicited by students’ autistic traits (e.g., “He/She has problem in understanding others’ mental state.”). In this study, participants were asked to rate the ease with which they could support students with ASD on each item. All items were rated on a Likert scale from 1 (not at all) to 4 (very much).

Autistic Traits

To measure autistic traits of participants, the Autism Spectrum Quotient-Japanese version short form (AQ-J-10) was used (Kurita, Koyama, & Osada, 2005). The AQ-J-10 is based on the Autism Spectrum Quotient (Baron-Cohen, Wheelwright, Skinner, Martin, & Clubley, 2001). The AQ-J-10 is a 10-item self-report questionnaire for screening adolescents and adults of normal intelligence with ASD, and is designed to measure autistic traits distributed among typically developed adults. The participants rated each of these items on a 4-point scale. The total scores ranged from 0 to 10. The validity of AQ-J-10 have been shown to be good (Kurita et al., 2005). AQ-J-10 can be downloaded for free.

Social Support

To measure participants’ social support, the Japanese version of the abbreviated Lubben Social Networks Scale (LSNS-6) was used (Kurimoto, Awata, Ohkubo, Tsubota-Utsugi, Asayama, Takahashi, Suenaga, Satoh, & Imai, 2011). This scale is based on the LSNS-6 (Lubben, Blozik, Gillmann, Iliffe, von Renreln Kruse, Beck, & Stuck, 2006). The LSNS-6 is constructed from a set of three questions that evaluate family ties and a comparable set of

three questions that evaluate friendship ties (Lubben et al., 2006). The total scores range from 0 to 30. The Japanese version of the abbreviated LSNS-6 was validated in Japanese samples (Kurimoto et al., 2011), and used to assess an individual's social network with whom one has social contact and social support (Watabe, Kato, Teo, Horikawa, Tateno, Hayakawa, Shimokawa, & Kanba, 2015). Both the LSNS-6 and the Japanese version of the abbreviated LSNS-6 can be downloaded for free.

Ethics Statement

At the beginning of the study, the researchers explained to all the participants that their personal information would be strictly protected, and that their decision to participate or not would not affect their academic evaluation. They were also told that participation was voluntary and that they could quit at any time. This research was approved by the ethics committee of Yamaguchi prefectural university (Approval Number: 28–29).

Statistical Analysis

Participants were divided into a low LSNS-6 group and a high LSNS-6 group. Participants were also divided into a low AQ-J-10 group and a high AQ-J-10 group. Peer support variables were analyzed in a 2 (low LSNS-6 group vs. high LSNS-6 group) \times 2 (low AQ-J-10 group vs. high AQ-J-10 group) ANOVA with Bonferroni correction to examine the effect of autistic traits and social support on the intentionality of peer support to students with ASD. Data analysis was performed using SPSS Statistics 23.0.

Results

Table 1 shows the mean score of peer support in the low LSNS-6 group and the high LSNS-6 group. The results of the ANOVA showed that the main effect of LSNS-6 group was not significant ($F(1, 47) = 2.66, p > .05, \eta^2 = 0.05$).

Group	<i>n</i>	LSNS-6 score range	Mean score peer support	<i>SD</i>
Low LSNS-6	25	3-19	62.96	11.22
High LSNS-6	26	20-30	68.62	9.49

Note: *SD* = Standard Deviation

Table 1. Fundamental statistics of peer support variables in each group of the LSNS-6

Table 2 shows the mean score of peer support in the low AQ-J-10 group and the high AQ-J-10 group. The ANOVA showed that the main effect of AQ-J-10 group was not significant ($F(1, 47) = 0.34, p > .05, \eta^2 < 0.01$).

Group	<i>n</i>	range of AQ-J-10 score	Mean score peer support	<i>SD</i>
Low AQ-J-10	23	0-1	67	9.29
High AQ-J-10	28	2-8	64.89	11.74

Note: *SD* = Standard Deviation

Table 2. Fundamental statistics of peer support variables in each group of AQ-J-10

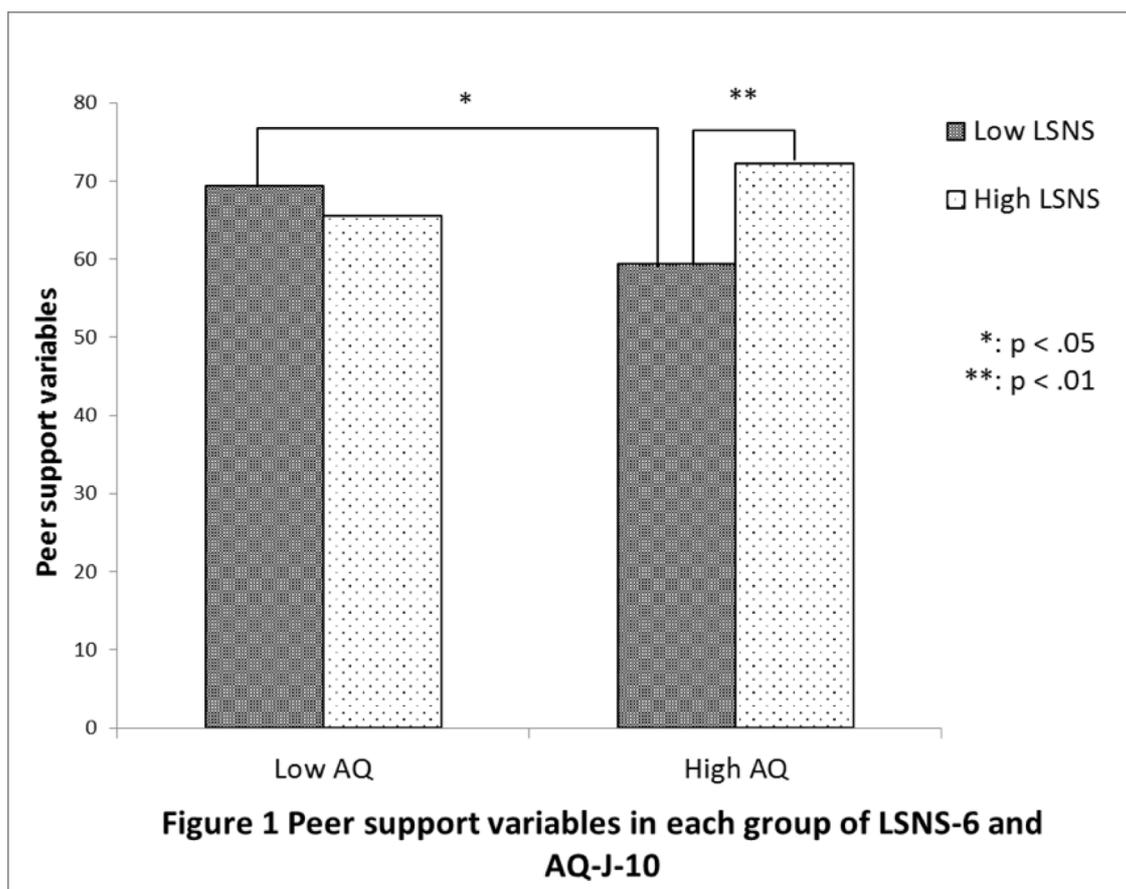
Table 3 shows the mean score of peer support in the four groups divided by LSNS-6 score and AQ-J-10 score. The ANOVA showed that the interaction of LSNS-6 group and AQ-J-10 group was significant ($F(1, 47) = 9.07, p < .01, \eta^2 = 0.16$). Thus, a single main effect test was carried out as sub-effect test. The results of the single main effect test showed that the single main effect of AQ-J-10 group was significant ($F(1, 47) = 12.13, p < .01, \eta^2 = 0.21$). The mean score of peer support of the high LSNS-6 group was higher than that of the low LSNS-6 in the high AQ-J-10 group (Figure 1). However, the mean score of peer support was not significantly different between that of the high LSNS-6 group and of the low LSNS-6 in the low AQ-J-10 group ($F(1, 47) = 0.86, p > .01, \eta^2 = 0.02$).

	Group	<i>n</i>	Mean score of peer support	<i>SD</i>
Low LSNS-6	Low AQ-J-10	9	69.33*	9.25
	High AQ-J-10	16	59.38	10.84
High LSNS-6	Low AQ-J-10	14	65.5	9.35
	High AQ-J-10	12	72.25**	8.64

Note: *SD* = Standard Deviation; **: $p < .01$; *: $p < .05$

Table 3. Mean score of peer support in each group of LSNS-6 and AQ-J-10

The results of the single main effect test also showed that the single main effect of LSNS-6 group was significant ($F(1, 47) = 6.10, p < .05, \eta^2 = 0.12$). In particular, the mean score of peer support of the low AQ-J-10 group was higher than that of the high AQ-J-10 in low LSNS-6 group (Figure 1). However, the mean score of peer support was not significantly different between the low AQ-J-10 group and the high AQ-J-10 group in the high LSNS-6 group ($F(1, 47) = 3.14, p > .05, \eta^2 = 0.06$).



Discussion

The purpose of this study was to examine the relationship between the intentionality of peer support and the characteristics of peer supporters focusing on autistic traits and social support. The results of this study revealed the following three points. First, students with high autistic traits who have more social support could help students with ASD more easily than those with high autistic traits who have less social support. This result is considered to reflect the idea that students with high autistic traits would be motivated by empathizing with students with ASD, and they would be confident in supporting them by gaining experience of talking to other students and demonstrating various skills. In other words, the intentionality of peer support in students with high autistic traits would be influenced by their social support.

It is suggested that people with high autistic traits develop confidence in social interactions by interacting with other people frequently (Tse, Strulovitch, Tagalakis, Meng, & Fombonne, 2007). Tse et al. (2007) examined the effectiveness of a social skill training group for adolescents with ASD, and showed a significant difference of confidence levels in social interactions between pre-training and post-training. This result implied that accumulating experiences of social interactions contributed to developing confidence in social interactions. Therefore, students with high autistic traits and more social support may be more confident in social interactions by accumulating experiences of social interactions and could support students with ASD more easily.

Second, it was found that students with low autistic traits and little social support could help students with ASD more easily than those with high autistic traits and little social support. This result reflects that students with high autistic traits and little social support are less confident in social interactions than students with low autistic traits and little social support. As mentioned above, people with ASD become confident in social interactions by gaining experience in interacting with others (Tse et al., 2007). Therefore, students with high autistic traits and little social support could not gain experience in interacting with others and have less confidence in social interactions. On the other hand, students with low autistic traits have a certain degree of social skills even if they do not have a lot of experience in interacting with others. Thus, students with low autistic traits and little social support could help students with ASD more easily than those with high autistic traits.

Third, it was found that either autistic traits or social support alone could not influence the intentionality of peer support students with ASD. This might mean that autistic traits could elicit empathy for students with ASD, but not give confidence in social interactions, and social support could give confidence in social interactions, but not elicit empathy for students with ASD.

These results suggest a need for peer support groups for students with ASD in universities. Currently, there are few health services for adults with ASD (Murphy, Wilson, Robertson, Ecker, Daly, Hammond, Galanopoulos, Dud, Murphy, & McAlonan, 2016). However, the results showed that students with high autistic traits with much social support could help each other more easily and, based on this, peer support groups for students with ASD in universities are appropriate. Few studies have examined the effectiveness of peer support groups for adolescents or adults with ASD, while there is a lot of support for the effectiveness of peer support groups for young people with ASD (McCurdy & Cole, 2014; Rodriguez-Medina, Martín-Antón, Carbonero, & Ovejero, 2016).

However, some previous studies have shown the effectiveness of peer support groups for adolescents or adults with ASD (Schmidt & Stichter, 2012). Schmidt and Stichter (2012) examined the effectiveness of peer-mediated interventions to promote the social competence for adolescents with ASD by using this intervention with three adolescents with ASD. The intervention included the following components: skill instructions, adult modeling, skill rehearsal, feedback, and a system for reinforcement. Results showed that the peer-mediated interventions enhanced generalized gains in social interaction. This study suggested that peer support for students with autism could lead to generalizing various skills in social interaction.

Therefore, higher education institutions, such as universities and colleges need to support the establishment of peer support groups for students with ASD and implement peer support program including components such as skill instructions, adult modeling, skill rehearsal, feedback, and a system for reinforcement.

Limitations

The limitations of this study include the following two points. First, the study included a small number of participants. Therefore, it is likely that the results of this study were not stable. For that reason, a study with a larger number of participants should be considered to validate the findings in this study. Second, the assessment of intentionality in peer support for students with ASD in this study does not represent peers' ability to support students with ASD. In other words, there might be some cases where students who have high intentionality

in peer support for students with ASD, would not have the ability to provide peer support for students with ASD. Therefore, the relationship between the intentionality of peer support for students with ASD and the ability of peers to support students with ASD should be assessed.

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