

DIFFERENCES IN PERSONALITY BELIEFS OF EMERGING ADULTS IN TWO
DISTINCT ONLINE ASEXUAL COMMUNITIES

A thesis presented to the faculty of the Graduate School of Western Carolina University
in partial fulfillment of the requirements for the degree of Specialist in School
Psychology.

By

Kevin Samuel Toole

Director: Candace Boan-Lenzo, Ph.D.
Associate Professor of Psychology
Department of Psychology

Committee Members: Dr. Mickey Randolph, Psychology
Dr. John Habel, Psychology

June, 2014

TABLE OF CONTENTS

List of Tables	v
Abstract.....	vi
Introduction to Asexuality	8
Literature Review.....	10
Historical Studies Concerning Asexuality	10
Demographics of the Asexual Population.....	13
Diversity in the Expression of Asexuality	14
Online Asexual Communities	18
Methodological Issues in the Study of Asexuality	18
Problems in Operationally Defining Asexuality.....	19
Sampling Difficulties	21
Difficulties in the use of Rating Scales to Identify Asexuals	22
Descriptive Studies of Asexuality.....	23
Gender Differences and Asexuality	23
Age Differences and Asexuality	23
Socio-economic Differences and Asexuality.....	24
Education Level and Asexuality	24
Religiosity and Asexuality	24
Interpersonal Relationships and Asexuality.....	25
Biological Functioning and Asexuality	26
Asexuality in Animal Populations	27
Sex Hormone Concentration in Asexual Animals	27
Morphological Differences in Asexual Humans and Animals	29
Physiological Arousal in Asexual Humans.....	30

Psychological Disorders and Asexuality	31
Hypoactive Sexual Desire Disorder and Asexuality.....	31
Depression and Asexuality	31
Autism Spectrum Disorders and Asexuality.....	33
Schizoid Personality Disorder and Asexuality	34
Statement of the Problem.....	36
Methodology.....	38
Participants.....	38
Measures	38
Demographic Questionnaire	38
Personality Beliefs Questionnaire.....	38
Procedure	39
Results.....	41
Research Question 1	41
Age.....	41
Gender.....	41
Sexual Orientation	41
Ethnicity.....	42
Level of Education.....	42
Identified Religion	43
Relationship Status.....	44
Length of Longest Relationship.....	45
Psychiatric History.....	46
Research Question 2	47
Research Question 3	48
Discussion.....	50
Demographics of Online Asexual Communities	50

Commonalities in the Asexual Community	50
Differences in the Asexual Community.....	51
Differences in Levels of Dysfunctional Personality Beliefs between Groups.....	55
Subclinical Levels of Dysfunctional Personality Beliefs.....	57
Limitations	58
Conclusions and Direction for Future Research	60
References.....	62

LIST OF TABLES

Table

1. Romantic Dimensions of Asexuality	15
2. Terms Related to Sexual Drive	16
3. Terms Denoting Asexual Reactions to Sexual Stimuli.....	17
4. Percentage of Members for AVEN and Antisexual groups on Level of Education Obtained.....	43
5. Percentage of Members for AVEN and Antisexual groups on Religious Affiliation.....	44
6. Percentage of Members for AVEN and Antisexual groups on Relationship Status.....	45
7. Percentage of Members for AVEN and Antisexual groups on Relationship Length	46
8. Means and standard deviations for AVEN and Antisexual groups on the Avoidant, Depression, Narcissistic, and Schizoid scales.....	48

ABSTRACT

DIFFERENCES IN PERSONALITY BELIEFS OF EMERGING ADULTS IN TWO DISTINCT ONLINE ASEXUAL COMMUNITIES

Kevin Samuel Toole, S.S.P.

Western Carolina University (June, 2014)

Director: Dr. Candace Boan-Lenzo

Asexuals are individuals who claim not to experience sexual attraction to others.

Researchers have suggested both that asexuality is best characterized as a unique sexual orientation, and that it may be indicative of underlying psychopathology. Various dysfunctional personality beliefs are believed to be indicators of different mental health disorders. To date, asexuals have mainly been studied through recruitment on the Asexuality Visibility and Education Network (AVEN), although other online asexual communities exist. The present study examined differences in personality beliefs of emerging adults in two distinct online asexual communities using the Personality Beliefs Questionnaire. The instrument contains 9 subscales that correspond to the Axis II personality disorders (Avoidant, Dependent, Obsessive-Compulsive, Antisocial, Narcissistic, Histrionic, Schizoid, Paranoid, Borderline). Each subscale contains 14 statements related to dysfunctional beliefs that are associated with the personality disorder. A total of 296 participants (261 self-identified as asexual; *M* age 24.56 years). Results revealed that the groups did not differ with regards to Passive Aggressive, Obsessive Compulsive, Antisocial Personality, Histrionic Personality and Paranoid scales. There were differences between the groups on Avoidant, Depression,

Narcissistic, and Schizoid scales. The present study found all levels of elevation to be subclinical for both groups. This is the first study to include asexuals from online groups other than AVEN. Implications for future research are discussed.

INTRODUCTION TO ASEXUALITY

Modern society has seen an increase in tolerance of sexual orientations that are not heteronormative. Significant attention has been paid in particular to homosexuality, bisexuality, and other sexual orientations that mimic behavior (in terms of establishing sexual relationships) that is seen as normative by society (Heckert, 2010). Despite this interest in diverse populations, little attention has been paid to sexual orientations and modes of sexual expression that deviate widely from the heteronormative schema. One of these orientations, known as asexuality, is beginning to be researched and studied more in depth. This is due in no small part to the work of Bogaert, (2004) whose research on the topic based on a national probability sample of sexual behavior from England brought to light the prevalence of asexuality. Asexuality as defined by Bogaert (2004) is “not being sexually attracted to anyone at all.” (p. 281). The definition used by the Asexuality Visibility and Education Network (AVEN), the largest asexual community in the world, is “someone who does not experience sexual attraction,” (AVEN, 2011). AVEN and the asexuals that the group represents are careful to distinguish between asexuality, which they feel is a legitimate sexual orientation, and celibacy, which is a choice to not have sex. It is this schema of not experiencing or lacking sexual attraction, rather than not engaging in sexual activity, that has been primarily used by researchers in

the modern era to qualify the nature of asexuality for study, (Przybylo, 2012) and used by asexuals to solidify their identify as a group.

Several experts in the field of human sexuality (Melby, 2005; Prause & Graham, 2007) have opined that asexuality should not be considered a sexual orientation for various reasons including the possibility of psychological, biological or medical problems causing the self-identified asexual to experience a lack of sexual attraction. Much of the modern research on asexuality has focused on exploring these claims that disorders are creating the asexual identity (Brotto, Knudson, Inskip, Rhodes & Erskine, 2010; Brotto & Yule, 2011; Prause & Graham, 2007). Brotto et al. (2010) found that when interviewed, close to 50% of asexuals were able to meet the DSM-IV criteria for schizoid personality disorder and some asexuals interviewed mentioned that they felt that some members of the community met criteria for Asperger's Disorder. Interestingly, no study previously conducted has examined online communities of asexuals beyond AVEN. It is the purpose of the present research to compare asexuals from different online asexual communities to each other with regard to demographics, dysfunctional personality beliefs, and clinical evaluations in personality beliefs commensurate with mental health disorders.

LITERATURE REVIEW

Historical Studies Concerning Asexuality

The history of scientific studies concerning asexuality is a rather brief and sparse one. Indeed, most inquiries into human sexuality before Bogaert's famous 2004 study rarely even mentioned asexuality as a theoretical construct, and none truly focused on it as a subject in its own right. Perhaps the first study to acknowledge the theoretical existence of asexuality were Kinsey, Pomeroy, and Martin in a study conducted in 1948. This study consisted of a variety of individuals being polled as to their sexual behaviors and desires, and required the participants to rate their sexual behaviors and gender preferences on a seven-point scale with heterosexuality at one end and homosexuality at the other (Kinsey, Pomeroy & Martin, 1948). This scale reflected Kinsey's theory of sexuality as a fluid, non-dichotomous continuum between heterosexuality and homosexuality, although the scale was nevertheless the sole continuum along which everyone had to fall. Due to this, Kinsey's model left no place for asexuality (Kinsey never used the term.) and instead had participants with little sexual response or behaviors rate themselves as an X on his scale, with about 2% of respondents doing so.

The first mention of asexuality in scientific literature is Johnson's 1977 study of asexuality through analysis of letters to the editor in women's magazines from asexual and autosexual women. Notably, it is also one of the only ones to study asexuality itself, rather than include it as a necessary part of a theoretical construct. Johnson distinguished

asexuals from autosexuals, claiming that autosexual women seemed to have sexual desires, but preferred to masturbate alone rather than seek a partner, while asexual women simply lacked sexual desires. Johnson concluded from her analysis of the letters that asexual women were oppressed by the refusal of the general culture to acknowledge their existence and that asexual women felt left behind by the female sexual revolution that was occurring at the time.

While not conducted until recently, Fahs' (2010) review of past interview data with radical 1970's feminists and content analyses of writings from that demographic and time period looked for references to asexuality. She discovered that the many of the radical, anarchist feminists at the time consciously chose asexuality (e.g., were not "naturally" asexual but chose to identify that way). Fahs' analyses revealed that these same women felt that embracing asexuality as an alternative to sexuality enabled women to take a more anarchic stance than mainstream feminism provided against the entire institution of sex, thereby working toward nihilistic, anti-reproduction, anti-family goals that severely disrupt commonly held assumptions about sex, gender, and power. Interestingly, this research suggests that not all who identify as asexual do so for reasons of sexual orientation, but also due to deeply held beliefs about the world. These findings reflect the schema of the Antisexual Stronghold community of asexuals (Antisex, 2011) in regards to embracing behavioral asexuality for reasons beyond sexual identity.

Storms (1980) remodeled Kinsey's scale into a four-quadrant (heterosexual, homosexual, bisexual, and asexual) matrix that includes asexuality as part of its theoretical construct. Storms argued that Kinsey's scale was outdated as it was unidimensional, which allowed for asexuality and bisexuality to overlap, as both would

be reporting a lack of preference in the gender of sexual partners. Further, Storms pointed out that by including sexual behaviors as a measure of orientation, Kinsey could be conflating closeted homosexuals with heterosexuals, sexually inexperienced bisexuals with heterosexuals or homosexuals, and sexually experienced asexuals as any of the other orientations. Storms created a four-quadrant matrix (heterosexual, homosexual, bisexual, asexual) with sexual orientation expressed as higher or lower number of fantasies that were in each quadrant (i.e., opposite sex fantasies, same sex fantasies, fantasies about both sexes, and no fantasies). While Storms recognized the importance of a separate category for asexuals, he was far more interested in his model's ability to better quantify bisexuality since it would no longer be solely determined by equality in gender preference, but also would allow for varying degrees of gender preference among bisexuals. Storms' decision to limit the measurement of sexual orientation to desires and fantasies also played a role in the definition of asexuality, with Storms being the first to define asexuality as a lack of sexual desire. So, while Storms can be seen as the father of asexuality as a theoretical construct, he did not consider asexuality beyond naming it and giving it a definition which was later adopted by Bogaert (2004). Bogaert in his famous study of U.K. sexual demographics first identified the prevalence of asexuals as a separate categorization.

While the aforementioned researchers were primarily concerned with establishing theoretical systems and did not look into asexuality in depth, they were responsible for developing the definition that is primarily used in studies of asexuality today. This definition of the asexual person as a "someone who does not experience sexual attraction" is the one that is used by the majority of individuals in the asexual community

(AVEN, 2011) and the majority of asexuality researchers (Bogaert, 2004; Brotto & Yule, 2011; DeLuzio, 2011; Prause & Graham, 2007; Przybylo, 2012). It should be noted here that researchers and the asexual community no longer use the presence or lack of sexual behaviors to define asexuality as was done in some of the historical studies discussed above due to the possibility of confounding behavior and identity (DeLuzio, 2011). For example, a definition of asexuality based upon the behavior of not having sex would include those heterosexuals, homosexuals, and bisexuals who might forgo sexual intercourse for religious reasons rather than because they are in fact asexual.

Demographics of the Asexual Population

Obtaining accurate prevalence rates on asexuals meets with the same methodological difficulties as others studies with this population. An early examination of the prevalence rate of asexuality that based whether or not a person is asexual on the score he or she received on a homoeroticism/heteroeroticism scale (getting a score of below 10 out of 100) found that five percent of males and 10% of females are asexual (Nurius, 1983). This study should be interpreted with caution, however, due to the measure of asexuality being related to the frequency of both sexual behavior and sexual desire, which would not fit with our proposed definition of asexuality.

Bogaert (2004) published the first professional article on asexuals (as defined today) and reported in his study a prevalence rate of 1.5 % of the population. Bogaert's took his sample from a survey of the sexual behaviors of British citizens following the AIDS epidemic. The sample contained over 18,000 subjects, of which 195 reported that they were asexual by indicating on the survey that they had never been sexually attracted

to either men or women. Another study used three different methods of collecting data (Poston, & Baumle, 2010). These methods included examining a behavioral dimension (not having sex), a desire dimension (not being sexually attracted to others), and a self-identification dimension (labeling oneself as asexual). They found that 9.2% of females and 11.9% of males identified as asexual on one of the three dimensions. Additionally, 51.3% of those females and 56.6% of those males met a behaviorally defined (not having sex) dimension definition, 3.7% of those females and 4.3% of those males met a definition based upon desire (not being sexually attracted to others), and 38.1% of those females and 33.9% of those males self-identified as asexual. Rates for responding as asexual across all three dimensions were 0.6% for females and 0.9% for males (Poston, & Baumle, 2010). This study, however, should be looked at with caution as two of the measures (for self-identification and for attraction to other individuals) only used “not sure” as the option that denoted asexuality.

Diversity in the Expression of Asexuality

Researchers have shown that there is a great diversity in the ways in which asexuals live, interpret their asexuality, and explain their asexuality (DeLuzio, 2011). Some asexuals may have sex out of curiosity or desire to please a sexual partner (Prause & Graham, 2007). Others may claim to have a sex-drive or libido, but not sexual attraction and may only masturbate as a way to relieve feelings of sexual tension caused by their libido (Scherrer, 2008). Still others may be unable to become sexually aroused at all and/or have no need for any sort of sexual experience (Carrigan, 2011).

As mentioned above, asexuals use a variety of qualifiers to define themselves (Scherrer, 2010). First, asexuals self-define along the dimension of sexual attraction, with a lack of sexual attraction being what makes one asexual (DeLuzio, 2011). However, reference is also made to gray-a's (Carrigan, 2011), or those who see their sexual attraction as moving between (or somewhere between) asexual and having a lack of sexual attraction, and sexual and having sexual attraction to one or more genders. Another dimension is romantic attraction with individuals self-defining as romantically attracted (but not sexually) to one or more genders (heteroromantic, homoromantic, biromantic, and panromantic) or not romantically attracted to anyone or aromantic (Carrigan, 2011). (See Table 1 for definition of terms). It is important to note that this does seem to be a legitimate distinction and one that is found often in the asexual community (DeLuzio, 2011).

Table 1

Romantic Dimensions of Asexuality

Descriptive Category	Definition
Heteroromantic	romantic attraction to opposite sex
Homoromantic	romantic attraction to same sex
Biromantic	romantic attraction to both sexes
Polyromantic	believe in more than two sexes and romantically attracted to all of them
Panromantic	believe in a spectrum of sexes and romantically attracted to all of them
Transromantic	romantically attracted to transsexuals or those of ambiguous sex
Aromantic	not romantically attracted to anyone

Note: Taken from Carrigan (2011)

A third dimension is sexual drive in which an asexual either has sexual drive (libidoist) or does not have sexual drive (nonlibidoist). However, in asexuals, sex drive is

not seen as being attached to the concept of sexual attraction (Brotto, & Yule, 2011). Sexual drive in asexuals almost always presents itself in masturbatory practices. Also, the term a-fluid is often used to describe individuals who may have some sexual attraction, may have a sex drive, and engage in sexual intercourse, but who also feel a distinct disinterest in sex and sexuality during other periods (Brotto & Yule, 2011). This should not be confused with the gray-a category, which is commonly only used with individuals who are questioning the extent to which they are asexual (Carrigan, 2011). Finally, the term demisexual refers to someone who is normally asexual, but will feel sexual attraction towards and want to have sex with those they are romantically attracted to (Carrigan, 2011).

Table 2

Terms Related to Sexual Drive

Term Name	Description
Gray-A	People who are questioning whether or not they are asexual
A-Fluid	People who feel asexual part of the time and sexual part of the time
Demisexual	People who are generally asexual, but feel sexual attraction towards those they feel romantically attached to
Libidoist	Asexuals that have a sex-drive (libido)
Nonlibidoist	Asexuals that do not have a sex-drive (libido)

Note: Adapted from Brotto & Yule, 2011; and Carrigan, 2011.

Asexuals also define themselves as to their visceral reaction towards sexual intercourse or how they feel about the idea of sexual intercourse (Carrigan, 2011). Those who identify as sex-positive feel positively towards sex and sexuality and may even have an intellectual interest in how the process works and one's motivation for having sex. Those who identify as sex-neutral feel indifferent to the idea of sex and have no interest in it. Those who identify as sex-averse feel that the idea of having sex with another

person is disgusting, while those who identify as anti-sexual feel that the idea of anyone having sex is disgusting. (See Table 3 for terms and definitions).

Table 3

Terms Denoting Asexual Reactions to Sexual Stimuli

Term Name	Reaction Dimensions
Sex-positive	feel positively towards the idea of sex, but don't want to engage in it
Sex-neutral	feel indifferent towards the idea of having sex or people having sex
Sex-averse	feel that the idea of themselves having sex is disgusting, but not the idea of others having sex
Anti-sex	feel that the idea of anyone having sex is disgusting

Note: Taken from Carrigan, 2011

The prevalence rates of diverse expressions of asexuality in the asexual population have been investigated by the primary website for asexuals (AVEN, 2011). AVEN conducted a survey through posting a simple questionnaire on the forum section of its website. That survey found that out of 124 asexual participants 60.4% of asexuals identified as romantic (heteroromantic=31.4%, homoromantic=6.5%, biromantic=17.5%, poly/pan/transromantic=5%) with 17.5% identifying as aromantic and 22.1% indicating that they were unsure. In another study, a link to an online survey was posted to AVEN's forum website that inquired about a variety of demographic questions (Brotto, Knudson, Inskip, Rhodes & Erskine, 2010). The study found that out of 187 asexual participants, five percent of asexual males and 10% of asexual females indicated never having had sex and 10% of asexual males and 26% of asexual females indicated never having a partner of some sort (Brotto, et al., 2010).

Online Asexual Communities. While previous studies have focused on the role of AVEN in asexuality research, another distinct group of asexuals also exists. The Antisexual Stronghold is a community that is characterized not just by asexuality, but also by a chosen rejection of all sexual activity as demeaning (Antisex, 2011), and rejects as members anyone who does not agree with this rejection (e.g. asexuals who choose to have sexual partners). This group distanced itself from AVEN early in the conceptualization of asexuality as an orientation due to its strong stance against all sexually activity as “unbecoming a human being.” Notably, the Antisexual Stronghold encourages individuals who choose lifelong celibacy to join their group even if such individuals are not “naturally” asexual.

In contrast, AVEN (2012) is characterized more by advocacy for asexuality as a sexual orientation and welcomes any individual to explore his or her sexuality/asexuality and what he or she feels “fits” himself or herself. Members of AVEN are encouraged to explore their sexuality/asexuality in whatever context they feel comfortable with. Members are encouraged to have sexual/romantic relationships with others if that is something they wish to investigate.

Methodological Issues in the Study of Asexuality

When studying asexuality, several methodological concerns must be taken into account (Hinderliter, 2009). The concerns revolve around three main issues: the definitions used to identify asexuality, the sampling methods used in studying asexuals, and the scales used in studies of asexuality to identify asexuals. Another concern is that the current focus of studies, upon ruling out biomedical causes for asexuality, could

themselves be driving asexuals to view their sexuality in a particular way that matched the biases of some researchers (Pryzbylo, 2012). That is, asexuals, upon reading the results of research, may qualify their own asexuality based upon the researcher's opinions. Furthermore, it has been suggested that various biological, medical, and psychological disorders could be the true causes of asexual feelings by causing a lack of sexual desire raising the concern that asexuality may not be an orientation at all (Melby, 2005).

Problems in operationally defining asexuality. Some methodological concerns have been raised about the study of asexuality using the commonly accepted definition of asexuality as a lack of sexual attraction (Hinderliter, 2009). However, this poses a problem as the feeling of lacking something generally presupposes an experiential knowledge of that which is absent (Przybylo, 2012). This difficulty in understanding if one is lacking something that one has never experienced is a common theme in asexuals exploring their identity for the first time (Scherrer, 2008). However, asexuals have been quoted in various studies (Carrigan, 2011; Scherrer, 2008) as coming to the realization of their absence by observing the reactions of sexuals around them. Thus, asexuals may have come to identify as asexual through the realization of their absence of sexual feeling compared to others.

Additionally, some researchers have pointed out that this emphasis on asexuality as an absence of what is a normal experience for the general population could too easily lead to the pathologizing of asexuals (Heckert, 2010; Pryzbylo, 2011). Emphasizing this absence can be seen as viewing asexuality through a window of perception that is too sexonormative, or focused on the experiences of those with typical sexual feelings, (e.g.

heterosexuals, homosexuals) compared to those without (Hinderliter, 2009; Scherrer, 2008). Such a definition by absence reinforces a divide between the sexonormative and the “other” that is perhaps overly artificial, considering the rather fluid nature of sexuality. Scherrer (2008) further points out that, if taken to extremes, this emphasis on an absence can reinforce the idea that asexuals are lacking a critical part of what it means to be a healthy person. She argues that this could lead to monosexism; the belief that only those who have sexual and romantic experiences with persons of one sex are acceptable orientations. For this reason, some researchers (Przybylo, 2011) have called for the defining of asexuality in terms of what asexuals “do” instead of what asexuals “do not do”. Focusing instead on the unique qualities of asexuals, such as their romantic partnerships, may better describe them as a group and better lend legitimacy to their experiences of their orientation. Przybylo argues that the sexonormative viewpoint that underlines the absence of sexuality in order to reference to one’s own sexual model of reality can hinder the expression of diverse types of sexual self-expression, such as asexuality. Further, she insists that the current state of research about asexuality, using the absence of sexuality as its identifier, overlooks the socio-cultural factors that are shaping asexuality by focusing on psycho-biological explanations and inquiries into asexuality (2012). Przybylo goes on to argue that asexuals should be able to learn to define their sexuality through interactions with other asexuals rather than through listening to researchers.

The challenge of defining asexuality has been acknowledged as a difficult one by researchers (Bogaert, 2006; Brotto & Yule, 2009; Prause & Graham, 2007) who have suggested that by continuing to study asexuality using the current definition (absence of

sexual attraction) combined with the use of qualitative methods, such as interviews, will allow us to come to a better understanding of asexuality as a construct. The definition of asexuality as currently used by the plurality of researchers is also accepted by the asexual community at large (AVEN About, 2011), which lends it credence as a way to identify those who themselves accept the label of asexual. Moreover, several qualitative studies (Scherrer, 2008; 2010; DeLuzio, 2010; Carrigan, 2011) have already been conducted on the asexual population and have allowed for a better understanding of the viewpoints of asexuals in the modern era. While the acknowledges the limitations of the definitional constructs surrounding asexuality, we will use the definition commonly accepted in the asexual research and the asexual community; asexuals do not experience sexual attraction (AVEN About, 2011; Bogaert, 2006). Despite the methodological shortcomings and problems discussed above, the present study reaffirms, along with many researchers, that more study in the field using a commonly accepted categorical definition will resolve these problems in time (Brotto & Yule, 2009; DeLuzio, 2011).

Sampling difficulties. It is important to consider that many surveys of asexuals are conducted through online asexual websites (mainly AVEN) and many subjects are recruited through these sites (Carrigan, 2011; Przybylo, 2012; Scherrer, 2008). This sampling method is far from representative of all asexuals and susceptible to sampling bias. By using this method of subject sampling alone one is ignoring not only perspectives on asexuality other than those of AVEN adherers (or other sites); one is also ignoring asexuals who have not yet “come out” or discovered their asexuality (Brotto & Yule, 2009; Hinderliter, 2009). Brotto and Yule (2009) suggested that the sampling bias can be reduced by posting signs and ads for research studies that do not use the term

asexuality, but instead use the most accepted definition of asexuality (e.g. “Do you experience a lack of sexual attraction?”). Although this method avoids the use of a specific site for asexuals and tries to obtain a representative sample through ads, it runs the risk of not gathering enough participants on which to conduct research. Ultimately, studies may have to rely on convenience samples of asexual groups on the internet for participants, but would benefit from using other asexual websites in addition to AVEN for recruitment of participants (Brotto & Yule, 2009; Hinderliter, 2009).

Difficulties in the use of rating scales to identify asexuals. Hinderliter (2009) also raised the issue of using rating scales to identify asexuals for research studies due to the use of scale statements that assumed sexonormative schemas (e.g. asking about the number and frequency of sexual partners while ignoring the fact that asexuals may have had romantic, but not sexual partners leading to asexuals answering as never having had a partner) and scales that contained forced choice dichotomous response questions regarding asexual identity. Scale questions that provide agree/disagree choices in response to statements that assume sexual attraction may confuse asexuals, who may feel the only way to respond is by not answering the question. Further, forced-choice, dichotomous response questions may make gray-a’s (asexual’s questioning their identity) elect the non-asexual option due to confusion over their orientation, causing the loss of representation of a portion of the asexual population. It has been suggested that the use of a scale in which sexual attraction is a continuum, considering that the fluidity of sexual expression is emphasized in the asexual community by exploring a variety of romantic relationships that are not heteronormative, would better capture the breadth and depth of the asexual community (Brotto & Yule, 2009).

Descriptive Studies of Asexuality

Although limited, research that has examined the basic demographic variables of asexuals has provided some insight into this population.

Gender differences and asexuality. Three studies have examined gender differences in the asexual population. Bogaert (2004) investigated the number of females identifying as asexual compared to the number of males identifying as asexual. He found that there were significantly more female than male asexuals, with only about 29% of the population of asexuals he surveyed being male. Bogaert reasoned that this larger percentage of females was due to the cultural view of females in Western society as sexless beings influencing more females than males to identify as asexual. However, later researchers (Brotto et al., 2010; Prause & Graham, 2007) found no difference in the proportion of male to female asexuals with equal numbers of men and women identifying as asexual.

Age differences and asexuality. Two studies that examined the age of asexuals compared to sexuals reported similar findings (Bogaert, 2004; Prause & Graham, 2007). Bogaert (2004) initially reasoned that asexuals would tend to be much younger than sexuals, as younger people would be more likely to be unsure of their sexual orientation and thus identify as asexual. However, Bogaert found that asexuals actually tended to be significantly older than sexuals, with asexuals in his study having an average age of 38 compared to an average age of 36 among sexuals. Prause and Graham (2007) reported

similar findings with asexuals (average age 25) being significantly older than sexuals (average age 21) in their study.

Socio-economic differences and asexuality. Only Bogaert (2004) has examined the SES of asexuals in a demographic study. He found that asexuals tended to be lower in terms of SES than sexuals in that asexuals tended to hold less-skilled and lower-paying jobs than did sexuals. However, Bogaert did not obtain data on the actual amount of income that asexuals made, and only used a scale that indicated how skilled a job a respondent held.

Education level and asexuality. The educational attainment of asexuals has also received some attention by researchers. One research study found that asexuals tended to attain a lower overall level of education (i.e. lower level of degree) than sexuals (Bogaert, 2004). However, other research shows that a higher percentage of asexuals (43.9%) tend to graduate from college than sexuals (14.4%) (Prause & Graham, 2007). Another study found that 26% of asexuals had a university degree and that a further 8% had a post-graduate (e.g. Ph.D. or M.D.) degree. However, the researchers did not compare these rates to those of a sexual population (Brotto et al., 2010). Poston and Baumle (2010) also found that asexuals tended to be less educated in that they had lower level degrees than sexuals. However, the findings of this study are questionable, due to the methodological shortcomings, specifically the use of behavioral definitions to categorize asexuality, rather than the attraction and identification definitions normally used.

Religiosity and asexuality. Two studies have examined the religiosity of asexuals. The first found that a greater proportion of asexuals than sexuals did not report

religious affiliation (Bogaert, 2004). However, for those asexuals who were religious, higher rates of attendance at religious services was reported than for sexuals who were religious. Bogaert's findings were contrary to his original hypothesis, that more asexuals would be religious, since some religious traditions (e.g. Roman Catholicism, Buddhism) encourage celibacy in their adherents, making devotees more likely to be asexual. Brotto et al. (2010) conducted a series of qualitative interviews with asexuals that included questions about religious adherence. Contrary to the theory that asexual identification is caused by religious prohibition of sexual activity, Brotto et al. found that there were "a disproportionately high number of atheists" among asexuals (Brotto et al., 2010, p. 613). When Brotto et al. questioned asexuals about the link between asexuality and atheism, some asexuals responded that they felt that asexuals were more likely to be nonconformists due to their uncommon sexual orientation, and thus were more likely to become atheists since they were already out of conformity with the expectations of society.

Interpersonal relationships and asexuality. Asexuals differ from sexuals in terms of behaviors in several obvious ways. Asexuals are less likely to have a sexual partner or a romantic partner than sexuals (Prause & Graham, 2007). They are also less likely to get married and have children, and they have fewer sexo-romantic partners. Asexuals experience fewer health risks related to sexual activity (STDs, pregnancy) and have fewer relationship problems than sexuals. Asexuals also report that if they did have sex (or masturbate) that they so did either out of curiosity or out of pressure from a romantic partner (Prause & Graham, 2007). In contrast, sexuals generally report engaging in sex to become closer to their partner or to experience pleasure. However, none of the

asexuals reported their sexual experiences as pleasurable or as activities in which they would want to engage again. In contrast, sexuals generally reported their sexual experiences as enjoyable and wanted to continue to engage in them (Prause & Graham, 2007).

Other studies report similar findings, with asexuals engaging in sexual intercourse less frequently, masturbating less frequently, and engaging in fewer sexoromantic activities (kissing, petting) than non-asexuals (Brotto et al. 2010). Finally, asexuals are also far less likely to seek out potential sexual or romantic partners and spent less time seeking partners than sexuals (Carrigan, 2011). It should be noted here that there are a variety of lifestyles that asexuals live in order to fulfill themselves in lieu of sexonormative relationships (AVEN, 2011; Carrigan, 2011; Scherrer, 2008). Some asexuals may construct a group of very close friends, some may opt to focus on their career or hobbies, and others may join celibate religious groups dedicated to some cause they find noble.

Biological Functioning and Asexuality

Some scholars (Melby, 2005) have expressed the opinion that asexuality is not a sexual orientation at all, but rather is simply a psychobiological disorder. In a series of interviews with sexology experts, several expressed the opinion that asexuals could be suffering from a lack of sex hormones, such as low testosterone as low testosterone is linked to reduced sex drive (Melby). Studies on hormone differences between asexual and sexual animals have been inconclusive (Clark & Galef, 2000; Roselli, 2002; Stellflug, 2006).

Asexuality in animal populations. Part of the process of legitimizing asexuality as a new sexual orientation includes looking to the presence of the orientation in non-human species, which lends credence to the orientation being a biological construct rather than a product of our culture (Przybylo, 2012). Research indicates that populations of asexual animals exist, and that information about asexuality in animals can thus help one to better understand asexuality as an orientation in humans (Clark & Galef, 2000; Roselli, 2002; Stellflug, 2006). Clark and Galef (2000) noted the presence of naturally asexual males in populations of Mongolian gerbils (*Meriones unguiculatus*) that were studied in a lab. Male gerbils were introduced to female gerbils in induced estrus and their behavior recorded. While most males attempted to court the female (sniffing her genitals and pursuing her around the cage) and attempted to mount the females in order to impregnate them, some of the male gerbils failed to show any interest in the females, and never tried to mount them. These behaviors held true for 4 out of 10 male gerbils in one group studied, and 5 out of 14 male gerbils in another group studied. Both Roselli (2002) and Stellflug (2006) noted the presence of naturally asexual rams in populations of sheep. Roselli defined the asexual rams as those that did not attempt to sniff the genitals of female sheep in estrus, did not try to challenge other males for mates, or did not try to mount females or other rams. Stellflug defined the asexual rams as those that did not attempt to mount females in estrus or other rams, with 7 out of 30 rams observed meeting this definition.

Sex hormone concentration in asexual animals. Studies of the level of sex hormones in animals that have been noted to be asexual have also been conducted (Clark & Galef, 2000; Roselli, 2002; Stellflug, 2006). The researchers hypothesized that the

levels of testosterone in the asexual animals they observed would be lower than the levels in sexual animals as testosterone has been demonstrated to increase sex drive. Clark and Galef (2000) were the first to test this by taking blood samples from both sexual and asexual gerbils in their study and comparing the levels of testosterone in the two. They found that the sexual gerbils did have higher levels of testosterone than did the asexual gerbils. Roselli (2002) took blood samples from three groups of rams: heterosexual rams, homosexual rams, and asexual rams and compared the levels of testosterone in each. He found that there were no significant differences in levels of testosterone between the rams, even when they were measured during the breeding season as compared to the non-breeding season. Stellflug (2006) also measured blood testosterone levels in heterosexual, homosexual, and asexual rams and found no difference between the three groups. Notably, Clark and Galef (2000) found hormone differences, while Roselli (2002) as well as Stellflug (2006) did not.

Clark and Galef (2000) noted an unusual behavior in the asexual gerbils, namely that they would take care of their sister's brood significantly more than would the sister's own mated male. Clark and Galef theorized from this that the asexual gerbils are an evolutionary adaptation to improve the chances of survival for a second generation of gerbils and that the female gerbils could control the production of asexual males through controlling the amount of interuterine exposure to testosterone in order to increase their daughters' chances of rearing healthy babies. Therefore, Clark and Galef (2000) may be measuring an asexual population that is not entirely similar to the sheep or other asexual populations as it could be an evolutionary adaptation particular to that species. While studies on humans have yet to be conducted, these findings suggest that asexuality is

possible apart from hormonal effects upon sex drive, as not all asexual animals show differences in hormone levels from their sexual counterparts.

Morphological differences in asexual humans and animals. An interesting additional finding that has been made by researchers studying asexual animals is that those animals that appear to be asexual also display marked morphological differences compared to sexual animals (Clark & Galef, 2000; Roselli, 2002; Stellflug, 2006). Gerbils that showed asexual behaviors tended to weigh significantly less than the gerbils that engaged in normal mating behaviors and to have shorter snout to tail lengths (Clark & Galef, 2000). Sheep categorized as asexual due to their lack of mating interest both weigh less and have a shorter shoulder to hoof length than sheep that do display mating interest (Roselli, 2002; Stellflug, 2006). The findings of morphological differences in both the asexual sheep and asexual gerbil populations are congruent, suggesting a possible biological basis to asexuality that is yet to be explained. Interestingly, Bogaert (2004) found that asexual humans in his study reported significantly lower weights and shorter heights than the sexuals in his study did. This is similar to the findings of the asexual animal studies and further suggests a biological basis for asexuality.

Further, some studies have indicated a possible neurodevelopmental basis for asexuality (Yule, Brotto & Gorzalka 2014). Yule, Brotto, and Gorzalka (2014) conducted an online survey of 1283 participants (325 asexuals, 690 heterosexuals and 268 homosexuals/bisexuals) that asked participants to indicate their handedness, (i.e. dominant hand) number of older/younger siblings, finger length, and sexual orientation. The researchers found that asexual men and women were 2.4 and 2.5 times more likely to be non-right handed than their heterosexual counterparts. They also found that asexual

and homosexual/bisexual men were significantly more likely to have older siblings. Female asexuals were significantly more likely to have younger siblings than heterosexual women. Yule et al. (2014) concluded that this evidence provided a biological and neurodevelopmental basis for asexuality similar to that of homosexuality and conclude that asexuality was a unique orientation.

Physiological arousal in asexual humans. Some scholars have pointed to the fact that some asexuals do not seem to be able to sexually perform as the cause of asexual identification (Bogaert, 2006; Carrigan, 2011; Melby, 2005). The researchers found that some asexuals surveyed in their studies reported not being able to become physiologically aroused (getting an erection for males). In addition, in a study conducted by Brotto and Yule, (2011) asexual and sexual females were attached to devices that measured the vaginal pulse amplitude (a measure of female physiological arousal to sexual stimuli) and shown erotic films. The asexual and sexual women showed no significant differences in their physiological arousal to the stimuli and subjective rating of their physiological arousal to the stimuli. Asexuals differed from the sexuals in that they did not report sexual attraction to those in the film and rated the experience of viewing the film less positively than did sexual women. This seems to indicate that asexuals are generally capable of normal sexual functioning as they showed no differences in physiological arousal.

Other scholars have also brought up the issue that asexuality as an orientation does not contribute meaningfully to the study of sexuality as it seems to be a lack of sexual orientation or a denial of sexuality rather than a true orientation (Carrigan, 2011; Melby, 2005). However, still other scholars have disputed these claims, pointing to the

plurality of viewpoints asexuals have on their orientation and arguing that asexuality as a construct could have the effect of widening the same-sex marriage debate by opening up non-normative schemas of relationships such as polyamory (Scherrer, 2008; 2010). Researchers have also pointed to the possibility that asexuality may be related to psychological disorders.

Psychological Disorders and Asexuality

Hypoactive sexual desire disorder and asexuality. According to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (2000) hypoactive sexual desire disorder is “persistently or recurrently deficient (or absent) sexual fantasies and desire for sexual activity” (p. 541). Additionally, this absence must cause the person marked distress or interpersonal difficulty and not be due to the physiological effects of a substance or drug. Both asexuality and hypoactive sexual desire disorder include the absence of sexual fantasies (or attractions) towards others and both asexuals and those suffering from hypoactive sexual desire disorder have little or no desire for sexual activity (Bogaert, 2006). While Bogaert (2004; 2006) initially noted the similarities between both hypoactive sexual desire disorder and asexuality, he quickly dismissed the possibility that asexuals were simply suffering from hypoactive sexual desire disorder, as asexuals he surveyed were not distressed by their apparent lack of sexual desire and felt no need to change it.

Depression and asexuality. Like most other researchers before the 21st century, Nurius (1983) did not speak in any great depth about asexuality beyond identifying them in her sample. However, she did notice that asexuals had a higher rate of depression and

low self-esteem than those with other sexual orientations, with 33.57% of asexuals being depressed, 25.88% of heterosexuals being depressed, 26.54% of bisexuals being depressed, and 29.88% of homosexuals being depressed. Nurius felt skeptical about drawing the conclusion that asexuals were more depressed due to their asexuality from this finding. She concluded the 'asexuals' in her study could be people suffering from major depressive disorder, as depression can cause low-rates of sexual behavior. She also noted that the higher rates of depression could be due to the 'asexuals' violation of the social norm of sexuality and, as a result, being ostracized.

According to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition., Text Revision* (2000), Major Depressive Disorder is characterized by five or more of the following: depressed mood most of the day, nearly every day (e.g. feeling sad or empty); diminished pleasure or interest in most activities even ones that were previously pleasurable; significant weight loss or gain; insomnia or hypersomnia; restlessness or sluggishness (that should be observable by others not just subjective feelings); fatigue or low energy; feelings of worthlessness or guilt; diminished ability to think; and recurrent thoughts of death or suicide. Brotto et al., (2010) mentioned that asexuality could be mistaken for depression, as depressed patients may lose interest in sex or relationships that were previously pleasurable.

Further, some experts (Milligan & Neufeldt, 2001) have asserted that those with mental health issues, such as depression or anxiety, may forgo the chance to establish or maintain relationships due to their general loss of motivation. This loss of interest in relationships and sex could be mistaken for asexuality. However, Brotto et al., (2010) administered the Beck Depression Inventory, Second Edition (BDI-II) to a sample of 187

asexuals and did not find the level of depression in the asexual population to be greater than the general population, throwing doubt on the theory that depression is masquerading as asexuality.

Autism spectrum disorders and asexuality. According to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (2000), autism spectrum disorders are characterized by two of the following: marked impairment in the use of nonverbal behaviors such as eye-to-eye contact; failure to develop appropriate peer relationships; lack of spontaneous seeking to share enjoyment or interests with others; lack of emotional or social reciprocity; and at least one of the following: encompassing preoccupation with one or more stereotyped patterns of interest, inflexible adherence to routines, or persistent preoccupation with parts of objects (p. 84). Additionally, the disturbance must cause significant impairment in daily life. Milligan and Neufeldt (2001) purposed that disorders relating to social skills (autism, Asperger's) may lead people with the disorders to prematurely forgo the chance of establishing a relationship, especially since society may often see them as uninterested in sex (Esmail, Darry, Walter & Knupp, 2010). This response may lead these people to choose to identify as asexuals. It is important to note that some people with disabilities are asexual, as in the general population, and may embrace that (a)sexual orientation (Kim, 2011).

In 2010, Brotto et al., conducted a study in which a sample of 187 asexuals were administered a rating scale designed to detect the presence of autism spectrum disorder. The researchers found difference in levels of elevation in the asexual population as compared to the general population. This study lends legitimacy to the view of asexuality as a unique sexual orientation, which further adds important information to the study of

human sexuality and casts doubt on the theory that asexuals fit on the autism spectrum. However, in follow-up interviews, a few asexuals mentioned that they feel that some of those in the asexual community may meet criteria for Asperger's disorder, which is placed on the autism spectrum (Brotto et al., 2010). Other research has demonstrated a higher prevalence rate of Asperger's in asexuals (9%) compared to sexuals (2%) (Gilmour, Schalomon & Smith, 2012). If asexuality is to be fully legitimized as a sexual orientation, these concerns about the relationship between asexuality and Asperger's disorder should be explored more fully.

Schizoid personality disorder and asexuality. According to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (2000) schizoid personality disorder is a pervasive pattern of detachment from social relationships and restricted range of expression of emotions in interpersonal settings indicated by at least four of the following: neither desires nor enjoys close relationships, almost always chooses solitary activities, has little, if any interest in having sexual experiences with another person, takes pleasure in few activities, lacks close friends or confidants other than first-degree relatives, appears indifferent to the praise or criticism of others or shows emotional coldness (p. 697). Little research has been done on the connection between schizoid personality disorder and asexuality, despite the fact that one of the defining characteristics of schizoid personality disorder, lack of interest in sexual experiences, sounds very similar to many asexuals. However, in 2010, Brotto et al., found during a series of interviews with asexuals that close to 50% interviewed felt that they met the criteria for schizoid personality disorder when read the criteria from the DSM-IV. If asexuality is to be fully legitimized as a sexual orientation, these final concerns about the

relationship between asexuality and schizoid personality disorder should be investigated in more depth.

STATEMENT OF THE PROBLEM

Previous research has ruled out several types of psychopathology as the cause of asexuality (Bogaert, 2004; 2006; Brotto et al., 2010; Prause & Graham, 2007). Specifically, these studies found that asexuals do not differ from sexuals when administered rating scales to identify depression, alexithymia, autism, social phobia or hyposexual desire disorder. Research has also found that asexual men and women do not differ significantly from their sexual counterparts in their ability to become aroused (Brotto et al., 2010; Brotto & Yule, 2011). These findings run counter to the opinions of earlier researchers, who suggested that asexuality may be psychopathological in nature or due to the inability to become aroused (Bogaert, 2004; Milligan & Neufeldt, 2001; Nurius, 1983).

However, some of the same studies (Brotto et al., 2011; Prause & Graham, 2007) conducted qualitative studies as part of their research and found during interviews that some asexuals held views commensurate with schizoid personality disorder, views indicative of social withdrawal, and some of the asexuals interviewed felt that other asexuals may meet Aspergers criteria. Notably, quantitative studies have not found evidence of elevated levels of psychopathology in asexuals, but qualitative studies have suggested that asexuals may have some beliefs and traits indicative of psychopathology.

These contradictory findings may be elucidated by measuring possible psychopathological dysfunction in the beliefs of asexuals about themselves. Given the great diversity that researchers have found within the asexual community (Carrigan,

2011; DeLuzio, 2011; Scherrer, 2008), gathering information from an online community of asexuals other than AVEN would provide a more comprehensive picture of asexuals. Indeed, it may be that dysfunctional personality beliefs commensurate with various types of psychopathology vary according to the online community to which an asexual belongs due to the difference in the beliefs endorsed by these different communities.

If asexuals affiliated with different online communities differ from each other on putative indicators of personality disorders, such as dysfunctional personality beliefs, then this would support the proposed association between asexual community affiliation and personality disorders (Brotto et al., 2010). To date, there are no data on dysfunctional personality beliefs, and community affiliation in asexuals. The purpose of this study was to compare asexuals from different online asexual communities (Asexual Visibility and Education Network and the Antisexual Stronghold). The following are the research questions that drive this study:

1. Are there differences between asexuals in the AVEN community and asexuals in the Antisexual Stronghold community with regard to age, gender, sexual orientation, ethnicity, level of education, religiosity, and relationship variables?
2. Are there differences between the online communities with regard to dysfunctional personality beliefs (Avoidant, Depression, Passive Aggressive, Obsessive Compulsive Disorder, Antisocial Personality Disorder, Narcissistic, Histrionic, Schizoid, and Paranoid)?
3. Are there clinical elevations on the personality belief scales for either group?

METHODOLOGY

Participants

A total of 296 individuals were recruited for our study. Participants included 261 individuals that self-identify as asexual. Participants were from two distinct online asexual communities, AVEN (The Asexuality Visibility and Education Network) and The Antisexual Stronghold. Additional information about the demographics of the sample will be included in results as they are relevant to the research questions posited.

Measures

Demographic questionnaire. Participants were asked to complete demographic information on age, gender, education, annual income, ethnicity, religious affiliation, relationship status and length, whether or not they had ever been diagnosed with a psychiatric disorder, and a question on sexual orientation.

Personality beliefs questionnaire. The *Personality Beliefs Questionnaire* (PBQ) is a 126-item scale with each item rated on a 0 to 4 Likert scale ranging from Never to Almost Always (Bhar, Beck & Butler, 2012). It is designed to assess participants' agreement with certain dysfunctional beliefs that are in turn related to personality disorders. In this way it discriminates between individuals with and without a specific personality disorder. The instrument contains 9 subscales that correspond to the Axis II personality disorders (Avoidant, Dependent, Obsessive-Compulsive, Antisocial,

Narcissistic, Histrionic, Schizoid, Paranoid, Borderline). Each subscale contains 14 statements related to dysfunctional beliefs that are associated with the personality disorder. Scores on the each subscale range from 0 to 56 with scores above 40 indicating clinical levels of elevation in a given subscale. An example of the wording of one of the questions is, “People will take advantage of me if I give them the chance.” While we are interested in the ratings of asexuals on the Schizoid subscale, we will administer the entire instrument so as to reduce the chances of socially desirable responding. Satisfactory reliability and validity have been established for the scales of the PBQ with Cronbach’s coefficient alphas ranging from .77 to .94 (Bhar, Beck & Butler, 2012).

For this study, Cronbach’s alpha levels for the PBQ were as follows: Avoidant (.85), Depression (0.82), Passive Aggressive (0.85), Obsessive Compulsive Disorder (0.88), Antisocial(0.78), Narcissistic (0.82), Histrionic (0.82), Schizoid (0.85), and Paranoid (0.93). These alpha levels suggest good internal reliability of the scale for our sample.

Procedure

The Western Carolina University Human Subjects Review Board approved all procedures. Participants were recruited to complete the online questionnaire from a link to the survey placed on the websites of AVEN (www.asexuality.org) and The Antisexual Stronghold. The advertisements were placed on the “Discussion” section of the websites–forums where members of the community post information on current events and engage in dialogue about different topics related to asexuality. Participants interested in completing the study were asked to click on a link to the Informed Consent and Information Sheet. Upon agreeing to participate, participants were then be asked to

complete a demographics questionnaire and the other survey online. Data were collected between December 2013 and January 2014 via a web-based survey hosted by Qualtrics. The survey and questionnaire together were estimated to take an average of 20 minutes to complete.

RESULTS

Research Question 1

Age. An independent samples t-test revealed a statistically significant difference [$t=5.09$ (289), $p < .001$] in age between the AVEN sample and the Antisexual sample. The AVEN sample had a mean age of 24.56 (SD=7.79) while the mean age of the Antisexual sample was 21.1 (SD=3.81).

Gender. There was not a statistically significant difference ($\chi^2 = 3.05$, $p=.22$) between the AVEN and Antisexual groups with regard to gender. For this reason the demographic information on gender has been collapsed across group. 19.9% of the sample identified as male, 64.3% of the sample identified as female, and 15.8% of the sample identified as other (e.g., agender, androgynous, non-binary, genderqueer, or unsure).

Sexual orientation. There was not a statistically significant difference ($\chi^2 = 9.66$, $p=.05$) between the AVEN and Antisexual groups with regard to sexual orientation. For the AVEN group, 5.18% identified as heterosexual, 2.59% identified as homosexual, 1.04% identified as bi/poly/pansexual, 85.49% identified as asexual and 5.7% identified as “other.” For the Antisexual group, 0% of respondents identified as heterosexual, homosexual, bi/poly/pansexual and 93.2% identified as asexual. For the Antisexual group, 6.8% of respondents in the group chose “other” as their orientation. For the “other” category, participants self-identified as: pan-asexual, biromantic demisexual,

hetero-demisexual, heteroromantic asexual, queer, grey-asexual, grey-a/hetero-oriented, paraphilic asexual, ace-spectrum, etc.

Ethnicity. With regard to ethnicity, there was not a statistically significant difference ($\chi^2 = 5.91, p=.21$) between the AVEN and Antisexual groups. For this reason the demographic information on ethnicity has been collapsed across groups. For our sample, 88.6% was Caucasian, 2% was African American, 1.7% was Hispanic, 5.1% was Asian 0% was Native American, Pacific Islander, or Middle Eastern and 2.7% identified as “other.”

Level of education. With regard to level of education, there was a statistically significant difference ($\chi^2 = 38.44, p<.001$) between the groups with regard to level of education. For the AVEN group, 4.67% completed only some high school, 18.65% completed high school, 32.12% completed some college, 9.33% obtained a two-year college degree, and 35.23% had completed a college degree (4 year). For the Antisexual group, 4.85% completed only some high school, 7.77% completed high school, 67.96% completed some college, 1% obtained a two-year college degree, and 18.45% had completed a college degree (4 year). (See Table 4 below for more information).

Table 4: *Percentage of Members for AVEN and Antisexual groups on Level of Education Obtained*

Group	N	<i>Some H.S.</i>	<i>H.S. Graduate</i>	<i>Some college</i>	<i>Two-year degree</i>	<i>College Graduate</i>
AVEN	193	4.67%	18.65%	32.12%	9.33%	35.23%
Antisexual	103	4.85%	7.77%	67.96%	1.0%	18.45%

Identified religion. With regard to identified religion, there was a statistically significant difference ($\chi^2 = 90.52, p < .001$) between the groups. For the AVEN group, 19.79% identified as Christian, 2.6% identified as Jewish, 0.52% identified as Muslim, 0% identified as Hindu, 3.63% identified as Buddhist, 0.52% identified as Pagan/Neopagan, 61.66% identified as Atheist/Agnostic, and 10.88% identified as “other.” For the Antisexual group, 64.08% identified as Christian, 1.94% identified as Jewish, 0% identified as Muslim, 0% identified as Hindu, 3.88 identified as Buddhist, 10.68% identified as Pagan/Neopagan, 17.48% identified as Atheist/Agnostic, and 1.94% identified as “other.” (See Table 5 below for more details).

Table 5: *Percentage of Members for AVEN and Antisexual groups on Religious Affiliation*

Online Group	N	Chris tian	Jewish	Muslim	Hin du	Budd hist	Pagan / Neopa gan	Atheist/ Agnostic	Other
AVEN	193	19.79 %	2.6%	0.52%	0%	3.62 %	0.52%	61.66%	10.88 %
Antise xual	103	64.08 %	1.94%	0%	0%	3.88 %	10.68 %	17.48%	1.94 %

Relationship status. With regard to relationship status, there was a statistically significant difference ($\chi^2 = 19.11, p=.001$) between the groups. For the AVEN group, 88.08% identified as single, 2.6% identified as married, 2.07% identified as divorced, 0% identified as widowed, 3.11% identified as cohabitating, and 4.15% identified as having a stable partner. For the Antisexual group, 78.64% identified as single, 1% identified as married, 0% identified as divorced, 0% identified as widowed, 1.94% identified as cohabitating, and 18.45% identified as having a stable partner. (See Table 6 below for details).

Table 6: *Percentage of Members for AVEN and Antisexual groups on Relationship Status*

Online Group	N	<i>Single</i>	<i>Married</i>	<i>Divorced</i>	<i>Widowed</i>	<i>Cohabiting</i>	<i>Stable Partner</i>
<i>AVEN</i>	<i>193</i>	<i>88.08%</i>	<i>2.6%</i>	<i>2.07%</i>	<i>0%</i>	<i>3.11%</i>	<i>4.15%</i>
<i>Antisexual</i>	<i>103</i>	<i>78.64%</i>	<i>1.0%</i>	<i>0%</i>	<i>0%</i>	<i>1.94%</i>	<i>18.45%</i>

Length of longest relationship. With regard to length of longest relationship, there was a statistically significant difference ($\chi^2 = 16.67, p=.001$) between the groups. For the AVEN group, 44.75% identified as never having a relationship, 13.56% identified as having a relationship that lasted less than 6 months, 16.32% identified as having a relationship that lasted 6 to 12 months, 11.05% identified as having a relationship that lasted 1 to 2 years, 6.32% identified as having a relationship that lasted 3 to 4 years, 7.37% identified as having a relationship that lasted 5 to 10 years, and 1.05% identified as having a relationship that lasted more than 10 years. For the Antisexual group, 54.37% identified as never having a relationship, 10.68% identified as having a relationship that lasted less than 6 months, 16.05% identified as having a relationship that lasted 6 to 12 months, 17.48% identified as having a relationship that lasted 1 to 2 years,

1% identified as having a relationship that lasted 3 to 4 years, 0% identified as having a relationship that lasted 5 to 10 years, and 0% identified as having a relationship that lasted more than 10 years. (See Table 7 below for more details).

Table 7: *Percentage of Members for AVEN and Antisexual groups on Relationship Length*

Online Group	N	Never had relationship	<6 months	6-12 months	1-2 years	3-4 years	5-10 years	>10 years
AVEN	193	44.75%	13.56%	16.32%	11.05%	6.32%	7.37%	1.05%
Antisexual	103	54.57%	10.68%	16.05%	17.48%	1.0%	0%	0%

Psychiatric history. With regard to psychiatric history, there was not a statistically significant difference ($\chi^2 = 5.41, p=.46$) between the AVEN and Antisexual groups. For this reason the demographic information on psychiatric history has been collapsed across groups. 24.9% of the sample identified as having been diagnosed with a psychiatric disorder, and 75.1% of the sampled identified as not having a psychiatric diagnosis. Self-reported diagnoses include: depression, autism spectrum disorders (including Asperger's autism, and PDD-NOS), ADHD, generalized anxiety, social

phobia, OCD, bipolar, borderline personality disorder, PTSD, avoidant personality disorder, schizophrenia, dysthymia, anorexia, and giftedness.

Research Question 2

A MANOVA was used to examine differences on the Avoidant, Depression, Passive Aggressive, Obsessive Compulsive Disorder, Antisocial, Narcissistic, Histrionic, Schizoid, and Paranoid scales (from the PBQ) based on online group (AVEN or Antisexual). The results revealed a statistically significant [$F(9,286)=5.12, p<.001, \chi^2=.14$] difference for the overall model.

Univariate ANOVA results indicate that there were no statistically significant differences on the Passive Aggressive [$F(1,294)=1.75, p=.19$], Obsessive Compulsive Disorder [$F(1,294)=2.56, p=.11$], Antisocial Personality Disorder [$F(1,294)=1.54, p=.22$], Histrionic Personality Disorder [$F(1,294)=2.52, p=.11$], or Paranoid [$F(1,294)=0.75, p=.39$], subscales based on online group (AVEN or Antisexual). The mean score on these scales collapsed across groups were as follows, Passive Aggressive $M=36.25$ ($SD=9.12$), Obsessive Compulsive Disorder $M=38.73$ ($SD=9.98$), Antisocial Personality Disorder $M=30.21$ ($SD=7.2$), Histrionic Personality Disorder $M=28.43$ ($SD=8.01$), and Paranoid $M=31.46$ ($SD=10.92$).

Univariate ANOVA results indicated statistically significant differences on all other domains: Avoidant [$F(1,294)=6.59, p=.01, \chi^2=.02$], Depression [$F(1,294)=6.59, p=.01, \chi^2=.02$], Narcissistic [$F(1,294)=6.59, p=.01, \chi^2=.02$], and Schizoid [$F(1,294)=6.59, p=.01, \chi^2=.02$]. Refer to Table 8 below for the mean scores on the above domains.

Table 8: Means and standard deviations for AVEN and Antisexual groups on the Avoidant, Depression, Narcissistic, and Schizoid scales.

Online Group	N	Avoidant Scale <i>M(SD)</i>	Depression Scale <i>M (SD)</i>	Narcissistic Scale <i>M (SD)</i>	Schizoid Scale <i>M (SD)</i>
AVEN	193	33.51(8.08)	27.29(8.24)	25.22(7.47)	33.34(8.45)
Antisexual	103	36.19(9.43)	30.78(8.04)	23.19(5.24)	31.05(8.38)

The AVEN group scored higher on the Schizoid and Narcissistic subscales than did the Antisexual group. Asexuals who are members of AVEN thus hold more beliefs commensurate with those of individuals diagnosed with Schizoid Personality disorder and Narcissistic Personality disorder than asexuals who are members of the Antisexual Stronghold. The Antisexual group scored higher on the Avoidant and Depression subscales than did the AVEN group. Asexuals who are members of the Antisexual Stronghold thus hold beliefs that are more commensurate with those of individuals diagnosed with Avoidant Personality disorder and Depression than asexuals who are members of the AVEN group. Neither group showed clinical levels of elevation on any scale.

Research Question 3

Interestingly, participants from both asexual groups demonstrated subclinical levels of dysfunctional personality beliefs across all scales on the Personality Beliefs

Questionnaire (PBQ). On the PBQ, scores of 40 or higher are seen as indicative of a level of dysfunctional personality beliefs commensurate with a clinical diagnosis on a particular scale (Depression, Histrionic, Schizoid etc.) (Bhar, Beck & Butler, 2012).

Neither community of asexuals showed clinical levels of dysfunctional personality beliefs on any subscale. This indicates a lack of pathological levels of dysfunctional personality beliefs in the asexual communities surveyed (AVEN and Antisexual Stronghold).

DISCUSSION

The purpose of this study was to examine differences between two distinct online asexual communities. The communities sampled were the Asexuality Visibility and Education Network (AVEN) and the Antisexual Stronghold. The Antisexual Stronghold is a community that is characterized not just by asexuality, but also by a chosen rejection of all sexual activity as demeaning (Antisex, 2011), and rejects as members anyone who does not agree with this rejection (e.g. asexuals who choose to have sexual partners). AVEN (2012) is characterized more by advocacy for asexuality as a sexual orientation and welcomes any individual to explore their sexuality/asexuality and what they feel “fits” them. First, we sought to understand if these communities are different on demographic variables. Next, we wanted to determine if level of dysfunctional personality beliefs differs among asexuals depending on the asexual community they selected for affiliation. Finally, we wanted to determine if asexuals from either community had clinically elevated levels of dysfunctional personality beliefs.

Demographics of Online Asexual Communities

Comparisons between the online communities with regard to gender, sexual orientation, ethnicity, and psychiatric history, indicated no significant differences between the groups.

Commonalities in the asexual community. For both asexual communities, there are a larger amount of females (64.3 %) than males (19.9%) and a significant subgroup that self-described as “other” (agender, androgynous, non-binary, gender queer, unsure).

This find of a larger percentage of females than males reflects the findings of some researchers, (Bogaert, 2004) but contradicts those of others that found an equal amount of males and females (Brotto et al., 2010; Prause & Graham, 2007). Results of proportion of males to females are thus inconclusive. The present study does reflect findings by other researchers that there is a significant (15.8% for the present study) subset of the asexual community that does not accept a binary view of gender (Bogaert, 2004; Brotto et al., 2010; Prause & Graham, 2007).

The majority of participants in our sample (over 85%) identified as asexual when asked about their sexual orientation. This is not surprising given that the participants were recruited through online asexual communities.

The majority of participants in our sample (over 88%) identified as Caucasian when asked about their ethnicity this reflects findings from previous researchers (Brotto et al., 2010). This large number of Caucasians is reflective of the countries which most members of the online asexual communities are from, namely, the United States, Canada, England, and Russia (AVEN, 2011; Antisex, 2011).

In the present sample, less than 25% of participants indicated that they had been previously diagnosed with a mental disorder. This number is slightly less than that of the general population of which 26.2% have a diagnosed mental disorder in a given year (NIMH, 2014).

Differences in the asexual community. Comparisons between the online communities with regard to age, level of education obtained, religion, relationship status, and relationship length indicated significant differences between the groups.

This study identified a significant difference between the AVEN group and the asexual group with regards to level of education obtained. While there was a difference, for both groups over 65% of the sample had some post-secondary education. The AVEN group ($X = 24.6$) was significantly older than the Antisexual group ($X = 21.1$), which might account for the difference in completed degrees. The sample from the AVEN group had a higher percentage of individuals completing a college degree or a two-year degree than did the Antisexual sample. However, overall the Antisexual sample had more members (87.41%) with some college experience than did the AVEN group (76.68). More research into these communities needs to be conducted to determine possible reasons for this difference. If age does not explain the discrepancy, AVEN members may have a more liberal bent due to the “freer” nature of their group which contributes to greater aspiration to obtain a degree than the views of the more insular Antisexual Stronghold. Research indicates that college and university environments tend to encourage open-minded attitudes towards diversity in their students (Longerbeam, 2010). This emphasis on open-mindedness and questioning is closer to that espoused by the AVEN group which encourages its members to explore their (a)sexuality than the Antisexual group which has a stricter ideology and requires celibacy of its members.

The current study found that there was a significant difference between the two groups with regard to religiosity. Findings suggest that members of the AVEN group tend to be more secular than members of the Antisexual group. Notably, the Antisexuals had many more Christian and Pagans/Neopagan members than did the AVEN group. This may be due to the Antisexual group’s requirement of celibacy for its members which would appeal more to Christians and traditional Pagans/Neopagans whose religions

endorse celibacy than would “freer” requirements of asexual groups such AVEN.

However, it is important to note that both groups had a significant number of secular members (over 17% for both), which is higher than that found in the general population. The current study supports previous research (Bogaert, 2006, Brotto et al., 2010), which found that asexuals are more likely to be secular (e.g. atheist, agnostic) than those in the general population. The aforementioned researchers have postulated that this might be due to asexuals being more willing to go against mainstream society since they are already marginalized by an uncommon sexual orientation.

Novel to the current study is the revelation that there is a significant difference between communities of asexuals, with the AVEN group being more secular than the Antisexual group. The reason for this is not clear, necessitating more research into this phenomenon. However, we speculate that this might be due to the Antisexual Stronghold’s emphasis on celibacy for its members, which might make it more appealing to asexuals of a religious bent. Further, the two groups differed significantly due to older age of the members of AVEN. Research has shown that as people age out of adolescence and young adulthood, their ideological beliefs (which include religious beliefs) tend to become less salient over time (Poteat & Anderson, 2012; Witenburg, 2007). This might lend itself to the older AVEN members being less religious (and being less radical in general) than the Antisexual group as we found that members of AVEN were older than members of the Antisexual group.

There was a significant difference between the two groups with regard to relationship status. This study suggests that more members of AVEN are married or cohabitating than Antisexuals while more Antisexuals have a stable partner of some kind.

More research is needed to determine the exact reason for the differences between groups. One possible explanation is that the AVEN members represent a slightly older demographic and thus could be at a different developmental stage with regard to relationships. Additionally AVEN's more tolerant view towards its members sexual relationships may lead to more members marrying (and then becoming divorced), and more cohabitation than the more sexually restrictive Antisexual group. As asexuals sometimes define close friends as "partners" (Carrigan, 2011; Scherrer, 2008) members of the Antisexual group may be more likely to choose alternatives to sexual/romantic partners than members of the AVEN group due to their more restrictive beliefs about sexuality. However, it is important to note that for both groups, over 78% of members were single. This is not surprising given that both groups are comprised of individuals who identify as not ever being sexually attracted to anyone.

There are statistically significant differences between the AVEN group and the Antisexual group with regard to length of romantic relationship, with members of AVEN having longer-lasting relationships. This difference may be due to AVEN's more tolerant policy towards members having relationships, or the older age of the sample offering more opportunities for relationships because they have more life experience. However, for both groups, the majority of the members (44.75% for AVEN and 54.37% for Antisexuals) indicated that they had never been in a relationship at all. So, while there are more members of the AVEN group who have had long-term relationships, the majority of members from both groups have never had a romantic relationship.

Differences in Levels of Dysfunctional Personality Beliefs Between Groups

This study examined whether asexuals from different online communities differ from each other in levels of dysfunctional personality beliefs. There were significant differences between asexual community groups on dysfunctional personality beliefs for the Avoidant, Depression, Narcissistic, and Schizoid subscales of the PBQ. Specifically, asexuals affiliated with the online community AVEN had higher scores on the Narcissistic and Schizoid subscales, while asexuals affiliated with the online community the Antisexual Stronghold had higher scores on the Avoidant and Depression subscales. While there are not enough data to suggest firm reasons for these apparent differences, speculations based upon the currently available data are below. It should be noted that in all cases we recommend further research be conducted to more fully determine the causes of these apparent differences.

The present study determined that there was a significant difference between the AVEN group and the Antisexual Stronghold group on personality beliefs commensurate with Avoidant personality disorder (see Table 4), with Antisexuals scoring higher. Avoidant personality disorder is characterized in part by avoidance of social situations with which the individual may be rejected or embarrassed (DSM-IV-TR, 2000). The Antisexual Stronghold community is characterized not just by asexuality, but also by a deliberate rejection of all sexual activity as demeaning (Antisex, 2011). In addition, the Antisexual Stronghold community rejects as members anyone who does not agree with this ideology (e.g. asexuals who choose to have sexual partners). AVEN is characterized more by advocacy for asexuality as a sexual orientation and encourages any individual to explore their sexuality/asexuality and what they feel “fits” them. The more exclusive

definition of membership by the Antisexual group could possibly have a greater appeal to individuals who have fears of inadequate performance either in a relationship or sexually than could AVEN. This possible avoidance of sexual relationships as embarrassing and the greater likelihood of individuals from the Antisexual group to affiliate with the group due to this could account for the higher scores on the avoidant scale relative to AVEN.

The present study determined that there was a significant difference between the AVEN group and the Antisexual Stronghold group on personality beliefs commensurate with Depression (see Table 4), with Antisexuals scoring higher. Depression is characterized in part by a loss of pleasure in ordinarily pleasurable activities and feelings of low, negative mood (DSM-IV-TR, 2000). The more exclusive nature of the Antisexual group (i.e. required rejection of sex) might be more appealing to somewhat more depressed individuals who have lost all interest in even the biological pleasure of sex, as opposed to AVEN, which encourages its members to seek out sexual pleasure in their relationships if they are comfortable with it.

The present study determined that there was a significant difference between the AVEN group and the Antisexual Stronghold group on personality beliefs commensurate with Narcissism (see Table 4), with members of AVEN scoring higher. Narcissism is characterized in part by a grandiose or inflated sense of self (DSM-IV-TR, 2000). AVEN is a larger asexual community with more individuals relative to the Antisexual Stronghold (AVEN, 2011). This larger online audience provides more individuals to interact with, talk to, and garner praise from. Research (Davenport, Bergman, Bergman & Fearington, 2014) has suggested that narcissistic individuals prefer social media, which allow them access to the greatest number of followers. Asexual individuals with

relatively more narcissistic tendencies may thus be more drawn to affiliate with the larger AVEN as opposed to the smaller Antisexual Stronghold group.

The present study determined that there was a significant difference between the AVEN group and the Antisexual Stronghold group on personality beliefs commensurate with Schizoid personality disorder (see Table 4), with members of AVEN scoring higher. Schizoid PD is characterized in part by a lack of interest in sex or sexual partners (DSM-IV-TR, 2000). AVEN is directed at anyone who experiences a lack of sexual attraction, while the Antisexual Stronghold also includes anyone who rejects sexual intercourse. The Antisexual Stronghold could therefore include individuals who are behaviorally asexual due to choosing celibacy (including for religious reasons) while AVEN simply includes individuals who do not experience sexual attraction. The Antisexual Stronghold's membership may thus be more likely to be comprised of celibates who have deliberately chosen to be behaviorally asexual. This leaves AVEN more likely to include individuals who simply do not care about sex rather than being comprised of individuals who have chosen celibacy. In turn, this leads to more individuals who have some beliefs commensurate with Schizoid PD being members of AVEN and causing higher scores on the PBQ relative to the Antisexual group.

Subclinical Levels of Dysfunctional Personality Beliefs

Previous research (Brotto et al., 2011; Prause & Graham, 2007) has found that some asexuals hold views commensurate with schizoid personality disorder that are indicative of social withdrawal, and some of the asexuals interviewed felt that other asexuals may meet Aspergers criteria. Notably, quantitative studies have not found

evidence of elevated levels of psychopathology in asexuals, but qualitative studies have suggested that asexuals may have some beliefs and traits indicative of psychopathology.

We found that neither asexual group had clinical levels of dysfunctional personality beliefs as measured by the PBQ. The current results supported previous findings of some researchers (Brotto et al., 2010; Bogaert, 2006; and Yule et al., 2014), that the asexual population did not have clinical levels of elevation on rating scales for a variety of psychological disorders. The results also conflict with other studies (Brotto et al., 2010; and Milligan & Neufeldt, 2001), which suggested that the presence of a psychological disorder such as anxiety, depression or schizoid personality disorder might account for asexuality. This suggestion leads to the conclusion that asexuality is not a distinct sexual orientation. Importantly, and novel to this study, neither the AVEN group nor the Antisexual Stronghold group exhibited clinical levels of elevation on any subscale of the PBQ. This which suggests that psychological disorders do not cause the phenomena of asexuality. Further, the present research suggests that this holds true in asexual groups beyond that of AVEN (previously the only asexual group studied).

Limitations

One major limitation of the current research is our use of Internet surveys to gather data as they are prone to several methodological flaws. First, there is the possibility of repeat responses, in which one participant completes several different surveys. Second, there is the potential for only a particular type of person answering (e.g. those who are socially maladjusted and use the internet as an outlet) or the deliberate avoidance of participating in the by others (e.g. asexuals who do have a disorder, but do

not want to characterize asexuality as a disorder and so avoid the study). Third, socially desirable responding by participants who wish to appear a certain way to the researcher can also present a confound. However, Internet surveys do allow for the collection of a large amount of data on particular populations that are difficult to sample by other means due to their wide dispersion in the general population. Thus, although using Internet surveys to measure psychopathology in various asexual communities is not without its limitations, it is an invaluable method for collecting data that may be less influenced by measurement error due to the larger amount of participants that can be collected using this method. Further, while the above limitations are a concern, researchers have noted that Internet survey methods do help researchers to gather large samples of diverse populations that are not necessarily otherwise acceptable (Gosling, Vazire, Srivastava & John, 2004). Further, the researchers noted that samples drawn from internet sources tend to be particularly invested in helping with research, which could address some of the fears about socially desirable responding.

A second major limitation of the present study involves the use of self-selected participants. This study was posted on general forums of both the AVEN and Antisexual Stronghold websites and included a brief explanation of the study's purpose before potential participants were asked to complete the surveys. Participants who felt that they met criteria for various disorders (such as Schizoid Personality Disorder) may have opted not to participate in the study, which would have skewed results. Further, asexuals who already feel that asexuality is a legitimate sexual orientation may have been less motivated to complete the study, which also may have skewed results. However, considering that researchers have previously found that asexuals are highly motivated to

participate in research to legitimize asexuality (Brotto et al. 2010) we do not believe that our findings lack external validity.

Conclusions and Direction for Future Research

This was the first study to test and provide empirical evidence for different personality beliefs between two asexual communities and to show, on the basis of self-reports, a lack of clinical levels of psychopathology between those groups. It is unclear at this point, however, what factors contribute to the differences in levels of subclinical dysfunctional personality beliefs between the two asexual communities. In fact, research beyond that conducted on the AVEN asexual community is largely non-existent, apart from the current study (Carrigan, 2011; Przybylo, 2012; Scherrer, 2008). Taken together, however, in light of the conceptual/theoretical support in favor of classifying asexuality as a sexual orientation (Bogaert, 2006), other online surveys that have found subclinical levels of psychopathology in the asexual population (Brotto et al., 2010), laboratory evidence that asexual women respond physiologically similar to other sexual orientation groups (Brotto & Yule, 2011), and the findings of Yule et al., (2014) which illustrated some of the same biological pathways implicated in the development of homosexuality are present in asexuality, we conclude that asexuality likely is best conceptualized as a unique sexual orientation.

Further research into neurological, genetic, epigenetic, hormonal, environmental, and social influences on asexuality is necessary, and additional large-scale studies are required to replicate the current findings of subclinical levels of psychopathology across asexual communities, and to gain insight into the relationship between asexual

community affiliation and various personality beliefs. Specifically, qualitative research into reoccurring themes present in various online sexual communities needs to be conducted to better elucidate the findings about personality beliefs of the present study. Further, research into themes within the asexual community (such as alternatives to sexual and romantic partners and how asexuals navigate relationships with sexuals) are necessary and should focus on “newer” members of asexual groups in order to better understand how such individuals come to term with their own asexuality and how this might be intertwined with their personality beliefs. These data are particularly useful as clinicians begin to work with asexuals and help emerging asexual adults come to terms with their own sexual identity.

REFERENCES

- American Psychiatric Association. (2000). Diagnostic and statistical manual - Text revision (DSM-IV-TR) (4 ed.). Washington, DC: American Psychiatric Association.
- Antisexual Stronghold. (2011). Frequently Asked Questions. Retrieved September 15, 2011, from Antisexual Stronghold Web Site: <http://antisex.info/en/go.htm>
- Asexual Visibility and Education Network. (2011). About AVEN. Retrieved September 15, 2011, from AVEN: The Asexual Visibility and Education Network Web Site: <http://www.asexuality.org/home/about.htm>
- Asexual Visibility and Education Network. (2012). Overview. Retrieved September 23, 2012, from AVEN: The Asexual Visibility and Education Network Web Site: <http://www.asexuality.org/home/overview.html>
- Bhar, S. S., Beck, A. T., & Butler, A. C. (2012). Beliefs and personality disorders: An overview of the Personality Beliefs Questionnaire. *Journal of Clinical Psychology, 68*(1), 88-100.
- Bogaert, A. F. (2004). Asexuality: Its prevalence and associated factors in a national probability sample. *The Journal of Sex Research, 41*, 279-287.

- Bogaert, A. F. (2006). Toward a conceptual understanding of asexuality. *Review of General Psychology, 10*(3), 241-250.
- Brotto, L. A., Knudson, G., Inskip, J., Rhodes, K., & Erskine, Y. (2010). Asexuality: A mixed-methods approach. *Archives of Sexual Behavior, 39*(3), 599-618.
- Brotto, L. A., & Yule, M. A. (2009). 'Methodological issues for studying asexuality': Reply to Hinderliter (2009). *Archives of Sexual Behavior, 38*(5), 622-623.
- Brotto, L. A., & Yule, M. A. (2011). Physiological and subjective sexual arousal in self-identified asexual women. *Archives of Sexual Behavior, 40*(4), 699-712.
- Campbell, J. M. (2005). Diagnostic assessment of Asperger's disorder: a review of five third-party rating scales. *Journal of Autism and Developmental Disorders, 35*(1), 25-35.
- Carrigan, M. (2011). There's more to life than sex? Difference and commonality within the asexual community. *Sexualities, 14*(4), 462-478.
- Clark, M. M., & Galef, B. G. (2000). Why some male Mongolian gerbils may help at the nest: Testosterone, asexuality and alloparenting. *Animal Behaviour, 59*(4), 801-806.
- DeLuzio Chasin, C. J. (2011). Theoretical issues in the study of asexuality. *Archives of Sexual Behavior, 40*(4), 713-723.
- Davenport, S. W., Bergman, S. M., Bergman, J. Z., & Fearington, M. E. (2014). Twitter versus Facebook: Exploring the role of narcissism in the motives and usage of different social media platforms. *Computers in Human Behavior, 32*, 212-220.

- Esmail, S., Darry, K., Walter, A., & Knupp, H. (2010). Attitudes and perceptions towards disability and sexuality. *Disability and Rehabilitation: An International, Multidisciplinary Journal*, 32(14), 1148-1155.
- Fahs, B. (2010). Radical refusals: On the anarchist politics of women choosing asexuality. *Sexualities*, 13(4), 445-461.
- Gilmour, L., Schalomon, P., & Smith, V. (2012). Sexuality in a community based sample of adults with autism spectrum disorder. *Research in Autism Spectrum Disorders*, 6(1), 313-318.
- Gosling, S. D., Vazire, S., Srivastava, S., & John, O. P. (2004). Should We Trust Web-Based Studies? A Comparative Analysis of Six Preconceptions About Internet Questionnaires. *American Psychologist*, 59(2), 93-104.
- Heckert, J. (2010). Relating differently. *Sexualities*, 13(4), 403-411.
- Hinderliter, A. C. (2009). Methodological issues for studying asexuality. *Archives of Sexual Behavior*, 38(5), 619-621.
- Johnson, MT. (1977). Asexual and autoerotic women: Two invisible groups. In: Gochros HL and Gochros JS (eds) *The Sexually Oppressed*. New York: Association Press, pp.96-109.
- Kim, E. (2011). Asexuality in disability narratives. *Sexualities*, 14(4), 479-493.
- Kinsey, A. C., Pomeroy, W. B., & Martin, C. E. (1948). *Sexual behavior in the human male*. Oxford England: Saunders

- Longerbeam, S. D. (2010). Developing openness to diversity in living-learning program participants. *Journal Of Diversity In Higher Education, 3*(4), 201-217.
- Melby, Todd. (2005). Asexuality gets more attention, but is it a sexual orientation?. (2005). *Contemporary Sexuality, 39*(11), 1.
- Milligan, M. S., & Neufeldt, A. H. (2001). The myth of asexuality: A survey of social and empirical evidence. *Sexuality and Disability, 19*(2), 91-109.
- National Institute of Mental Health. The Numbers Count: Mental Disorders. Retrieved June 15, 2014, from NIMH: The National Institute of Mental Health Website: <http://www.nimh.nih.gov/health/publications/the-numbers-count-mental-disorders-in-america/index.shtml>
- Nurius, P. S. (1983). Mental health implications of sexual orientation. *Journal of Sex Research, 19*(2), 119-136.
- Poston, D. L., & Baumle, A. K. (2010). Patterns of asexuality in the United States. *Demographic Research, 23*, 509-530.
- Poteat, V., & Anderson, C. J. (2012). Developmental changes in sexual prejudice from early to late adolescence: The effects of gender, race, and ideology on different patterns of change. *Developmental Psychology, 48*(5), 1403-1415.
- Prause, N., & Graham, C. A. (2007). Asexuality: Classification and clarification. *Archives of Sexual Behavior, 36*, 341–356.
- Przybylo, E. (2011). Crisis and safety: The asexual in sexusociety. *Sexualities, 14*(4), 444-461.

- Przybylo, E. (2012). Producing facts: Empirical asexuality and the scientific study of sex. *Feminism & Psychology*.
- Roselli, Charles A. (2002). Relationship of serum testosterone concentrations to mate preferences in rams. *Biology of Reproduction* 67, 263-268.
- Scherrer, K. S. (2008). Coming to an asexual identity: Negotiating identity, negotiating desire. *Sexualities*, 11(5), 621-641.
- Scherrer, K. S. (2010). What asexuality contributes to the same-sex marriage discussion. *Journal Of Gay & Lesbian Social Services: Issues In Practice, Policy & Research*, 22(1-2), 56-73.
- Stellflug, J.N. (2006). Comparison of cortisol, luteinizing hormone, and testosterone responses to a defined stressor in sexually inactive rams and sexually active female-oriented and male-oriented rams. *Journal of Animal Science*, 84, 1520-1525.
- Stöber, J., Dette, D. E., & Musch, J. (2002). Comparing continuous and dichotomous scoring of the Balanced Inventory of Desirable Responding. *Journal of Personality Assessment*, 78(2), 370-389.
- Storms, M. D. (1980). Theories of sexual orientation. *Journal of Personality and Social Psychology*, 38, 783-792.
- Witenberg, R. T. (2007). The moral dimension of children's and adolescents' conceptualisation of tolerance to human diversity. *Journal Of Moral Education*, 36(4), 433-451.

Yule, M. A., Brotto, L. A., & Gorzalka, B. B. (2014). Biological markers of asexuality: Handedness, birth order, and finger length ratios in self-identified asexual men and women. *Archives of Sexual Behavior*, *43*(2), 299-310.