

21st Century neo-androgyny: A measure of de-gendered androgyny.

The androgyne, a person who is psychologically androgynous and behaves androgynously, and their representation as an ideal person in an ideal world, has been idolized in many forms - from Greek mythology to the biblical Jesus Christ (Hopkins, 2013), till the present day (Weigel et al., 2020). However, the androgyny hypothesis that claims androgyny provides for healthy personal adjustment still lacks consistent empirical support. Regardless of contemporary studies and discussions claiming an androgynous personality provides positive outcomes for individuals in pursuits such as medicine (Rupavatham, 2017), the arts (Jonsson & Carlsson, 2000), science (Norlander et al., 2000), and leadership (Powell, 2015), support for the construct remains ambiguous (Pauletti et al., 2016).

What is psychological androgyny and the androgyny hypothesis?

The notion of androgyny in humans refers to myriad and variable constructions of literal and figurative images of woman-in-man and man-in-woman (Ramet, 1996) and unification of the sexes in some form has often served as a symbol of salvation (Hopkins, 2013). Traditionally, psychological androgyny was defined by the theoretical presence within the one individual of both masculine and feminine traits, skills, and interests stereotypically associated with masculinity and femininity (Elshtain, 1981; Lenney, 1979). Whereas masculine people think and behave in many stereotypically masculine ways, and feminine people think and behave in many stereotypical feminine ways, the androgynous person engages in both feminine and masculine types of behavior.

I hate this wretched willow soul of mine, patiently enduring, plaited or twisted by other hands (Boye, 1994). The androgyny hypothesis states that being androgynous is positively correlated with higher levels of psychological health and well-being. According to the

hypothesis, being more plaited and twisted by other hands and behaviorally stereotyped shapes and creates an environment that provides less benefits than does being psychologically androgynous (Woodhill & Samuels, 2004). Jeanne Block believed stereotypical socialization impinged on identity development to the extent of creating serious personal costs through the withholding of a more complete sense of self (Block, 1973). In comparison, the androgyny hypothesis states that being of an androgynous disposition gives one better access to a wider range of situationally appropriate behavior, which in turn, fosters better adaptation to life or at least provides a buffer to life's vicissitudes.

Is the idea of androgyny still relevant?

Androgyny as a personal identity, along with the promises of the androgyny hypothesis, seems intuitively attractive and its validity has at various times been demonstrated, (Hefner, Rebecca, & Oleshansky, 1975). Nevertheless, over the past several decades, the androgyny hypothesis has not been unequivocally substantiated.

The last 45 years of gender research into the benefits of psychological androgyny have resulted in a mélange of results and the picture for androgyny has not always clearly emerged as positive. One is thus prompted to ask whether or not the construct of androgyny as some mystical combination of masculine and feminine characteristics is any longer defensible. The study of sex and gender should perhaps be charged with offering a new framework from which a coherent, consistent, and lasting concept of androgyny may be derived, and from which the androgyny hypothesis may be re-examined and perhaps reborn. The foundation of this paper is the intersection of the two meta-theories: evolutionary essentialism and social determinism - Nature and nurture.

The Problems

Critics of androgyny and the merging masculine and feminine characteristics have been vocal, none more so than Allan Carlson (1995) who claims androgyny has suppressed effectiveness in services such as management, the military, in people generally unable to integrate their masculine and feminine selves, and in masculinity itself. Furthermore, attempting to conflate positive and negative characteristics is flawed. Androgyny violates the natural order based on factual biological differences (Carlson, 1995). These problems expand fivefold.

First; theorists historically presented psychological androgyny as a balanced mix of complete masculinity and femininity and measured it categorically. By ‘complete’ we mean the unspecific aggregate combination of innate traits and non-innate behaviours.

Second; with contemporary models of behaviour, we can split behaviour as measured by traditional androgyny into innate or learned. Those behaviors related to general cognitive functions are more flexible (Joel & McCarthy, 2017) and to those related specifically to the reproduction such as courtship, mating, empathy, aggression, and the rearing of offspring are innate and substantially fixed (Tannett, 2020).

Thirdly; gender (Schudson et al., 2017; van Anders, 2015; Carothers & Reis, 2013), sex (García-Acero et al., 2020; Ainsworth, 2015), and sexual orientation (Savin-Williams, 2014), are no longer seen as categorical, rather, canalized as masculine or feminine (Sisk, 2016; Mustanski et al. 2005).

Forth; traditional androgyny may be regarded as a threat to a person’s integrity by its perceived impact on the inner sense of self (Weigel et al., 2020). In other words, the traditional notion may threaten one’s inner sense of inborn essentially driven difference by claiming it needs be merged with those of the opposite sex, i.e., a merging of the tendencies stemming from the innate cognitive behaviours relevant to reproduction (Tannett, 2020).

Fifth; doubts about the validity of assessing only positive, socially desirable attributes in measure of androgyny were first raised in 1977 (Kelly, Caudill, Hathorn, & O'Brien, 1977). Pro-social and anti-social categories of androgyny were first described by Woodhill and Samuels who found pro-social androgyny was associated with optimal psychological health and well-being (Woodhill & Samuels, 2003, 2004).

Bem (1974) stipulated that an androgynous gender identity might allow an individual to freely engage in both 'masculine' and 'feminine' behaviours. By not distinguishing between innately sexed behavior relevant to reproduction and non-innate or acquired behavior in the androgynous mix, traditional models of androgyny proposed, by default, that it consists of their ambiguous combination. By presenting androgyny as this combination of substantially fixed and flexible behaviors, traditional models proposed some emasculation of men and 'masculation' of women. Emasculation is apparent in traditional androgyny where it implicitly asks men to adopt essential femininity. Judith Halberstam asked why was there no word for the opposite of "emasculation" (Halberstam, 1998, p. 269) and Cynthia Secor (1974, p. 166) states that androgyny is essentially a male word and in effect "gynandry" does not exist. We present the word 'masculation' as implicitly asking women to adopt essential masculinity. Surely adoption of opposite sex innateness is a spurious concept when the most widely accepted model of identity establishment - the bio-psycho-social model (Wood & Eagly, 2002) presents some sex differences as innate and others as acquired.

The bio-psycho-social model of development differentiates between innate and other influences on development. In the traditional construct of androgyny the terms 'masculine' and 'feminine' are undefined and arguably subsume some innate masculinity and innate femininity. De-gendered androgyny explicitly asks only to balance non-essential behavior. Innate reproductive behavior is regarded as lying within a canalized range of variation and sufficiently polarized so that average differences remain significant and relevant (McCarthy,

De Vries, & Forger, 2017; Carothers & Reiss, 2013). Non-dimorphic sex differences in the structure of brain regions involved in cognition, emotion, personality, (e.g., prefrontal cortex, hippocampus, amygdala) are presented in support of a heterogeneous male/female mosaic (Joel et al., 2015; Maney, 2014). Following the proposal for an innate signature of gender in the reproductive axis along with associated behavior (Tannett, 2020), the rest of male and female behavior can be regarded as more of a montage of sameness, where general behavioral variety is available to all individuals (Joel & McCarthy, 2017).

What are the implications ?

The implications are that categorical constructs and measures of psychological androgyny [such as the BSRI, the PAQ, and the EPAQ], are likely theoretically ungrounded and empirically flawed (Ruscio & Ruscio, 2008). While it is valid to ask to what extent are reported innate differences between the sexes due to physiological differences (the intrauterine organizational effects of genes and hormones), and to psychosocial factors (activational effects of the post-natal environment), it can be said with some confidence that factors such as genetics, hormones, and epigenetics (how nurture shapes nature) act in parallel to produce sex differences in reproductive behavior in both the brains and bodies of males and females (Fernandez et.al., 2018; Diamond, 2013; Rice, Friberg, & Gavrilets, 2012). With similar confidence it can be said the remainder of behavior associated with the general cognitive functions of reasoning, organization, and the execution of complex thoughts, including levels of intelligence, remain a mosaic (Joel & McCarthy, 2017; Jones & Lopez, 2014), and as such are the only behaviors relevant to the notion of psychological androgyny.

A recent study of children who see themselves as possessing characteristics of both genders supports androgyny's mental health advantages over more stereotyped personalities

(Pauletti et al., 2016). While the authors recognize self-rating on the terms ‘instrumental’ and ‘expressive’ correlate minimally with the individual sense of masculinity or femininity in modern Western culture, the study maintains the links between androgyny and gender as opposed to between gender and behavior, and does not locate what these ‘characteristics of both genders’ are in terms of specific behaviors. The study measures outcomes for androgyny and not the drivers of androgynous behavior.

The twentieth century was truly a time of intense interest of philosophers and psychologists in gender-related behavior. The problems for a theory combining masculine and feminine psychological qualities still require research (Weigel et al., 2020).

Neo-androgyny

Although Bem did not differentiate innate from learned gender, she did however seem regretful over her own interchangeable use of the terms sex and gender when perhaps they should have been differentiated. A contemporary view of identity has the categories of male and female as ‘fuzzy’ (Haslam, 2002); that is, there are not two distinct categories of sex and gender. Instead, these are presented as gradations of the variables associated with all people generally, as linear and continuous (Carothers & Reiss, 2013), or circular and continuous (van Anders, 2015). Studies have since highlighted the dimensional verses categorical classification of gendered behavior (Schudson et al., 2017; van Anders, 2015; Carothers & Reiss, 2013; Rosario, 2004; Reeder, 2003), or what we would refer to as the de-gendered behavior.

The Current Study

This current paper is based on the replacement of traditional categorical measures of androgyny with a statistically utilitarian dimensional or continuous one. This is significant in reflecting the recent calls to figuratively classify masculine and feminine behavior unrelated

to reproduction as non-innate continua (Tannett, 2020; Carothers & Reis, 2013) and so becoming theoretically available to both sexes.

As discussed, many authors propose a biological account of innate difference that underpins separate continua for bodily sex, gender, and sexuality. Under this continua model, and what has not been distinguished in past research on psychological androgyny, is that the ownership and outcomes of innate differential interconnected neurological pathways accounts for one's sense of maleness or femaleness; in other words one's gender – and thus gender is a biological given. On top of this awareness, people gradually build gender roles that are on many occasions expressed in stereotypical gendered behavior. Logically, the infinite variation in the social construction of gendered roles separate from innate gender, may be figuratively represented as a continuum, from masculine through androgynous to feminine, and what is socially constructed can be deconstructed.

The de-gendering of androgyny involves removing innate behaviors from [the traditional construct of androgyny](#), leaving only non-innate or acquired behaviors in the mix. Neo-androgyny means in essence only acquired or learned behaviors are available in sufficient quantities to both sexes in support of situationally appropriate behavior.

The aim of this research was to identify items for a generic measure of pro-social neo-androgyny from a common repertoire of non-innate behavior; thereby alleviating the need to construct androgyny out of nebulous taxonomic concepts of masculinity and femininity or from statistically weak categorical measures. Following the desirable/undesirable split of items (Wajsblat, 2011; Woodhill & Samuels 2003, 2004) we focus here on social or positive items because negative behaviours override the positive benefits of pro-social androgyny where outcomes for pro-social androgyny are different from and superior to anti-social or negative androgyny on measures of psychological health (Woodhill & Samuels, 2003).

Method

Participants

Four hundred and fifty two (319 female and 133 male) adults participated in this study, including 162 students from an Australian university and 290 international online recruits. One-hundred-and-ten participants completed less than 50% of survey items and were excluded from the study, leaving a final sample of 342 (251 females and 91 males) all aged over 18 ($M_{\text{age group}} = 21\text{-}30$). Inspection of the dataset indicated that participants who completed less than half the survey tended to reside in a country where English is not the native language. Correlational analysis confirmed that low completion rates were associated with residence in a non-native English speaking country, $r = -.32$, $p < .001$. A low completion rate amongst non-native English speakers is understandable, given that the survey required comprehension and rating of a wide range of English adjectives. The remaining native English speaking ($n = 286$) and non-native English speaking ($n = 56$) participants did not differ significantly in their gender ratings of 86% of the adjectives assessed in this study.

Procedure

Participants completed an online, email, or paper version of a questionnaire. University participants were invited to participate online as credit towards their study. International participants self-selected from 64 other countries after responding to online promotion. Participants judged a list of 121 personality or behaviorally descriptive adjectives comprising behaviors that are commonly viewed as innately different - both quantitatively and qualitatively (e.g., aggressive, autocratic) and non-innate (e.g., ambitious, bold). First, participants rated the desirability of each behavior on a three-point scale with options including (1) 'desirable', (2) 'neutral' or (3) 'undesirable'. Second, they rated the

genderedness of each term by assigning it to the sex they believed it most typically belonged: 'male', 'female', 'both', or 'neither'. Adjectives were sourced from The Adjective Checklist (Gough, & Heilbrun, 1980), the BSRI (Bem, 1974), the EPAQ (Spence, Helmreich, & Holahan, 1979), the literature, and expert opinion such as university professors and lecturers, as well as the views and intuitions of the authors of this current paper. The resulting list of 121 behaviors was consistent with lists of male or female characteristics identified in previous research (Woodhill & Samuels, 2003, 2004).

Participants were asked the following:

This list of 121 words represents some human personality behaviors. Generally speaking each behavior is associated more with one sex than the other, and sometimes with both. This list can give us a picture of the typical female or male in today's world.

Think of typical men and women as you see them. Now decide whether each word below is desirable or undesirable and also to which sex that item mostly belongs. If you think the behavior a word describes is mostly desirable then highlight 'desirable'. If you think it is mostly undesirable then highlight 'undesirable'. If you think it is neither desirable nor undesirable then highlight 'neutral'. On the same line highlight for whom you think it usually applies. Of course, you will be able to think of a situation where an item will be desirable and another situation where the same item will be undesirable; don't worry, we are asking you to indicate generally, in most situations, what you consider that item is. You may think an item is usually associated with both sexes, then highlight the word 'both'. If you consider a word irrelevant to a person's sex, that is if you can't decide which sex to assign it to, highlight only the 'neither' response. Finally if you are unsure of the meaning of a word then cross it out and go on.

For example:

Emotionally-in-touch - Desirable neutral undesirable : usually female usually male both neither

So this example tells us that the person thinks being 'emotionally-in-touch' is a desirable behavior usually associated with women.

Truthful - Desirable neutral undesirable : usually female usually male both neither

This example tells us that this person thinks 'truthful' is a desirable behavior that both sexes demonstrate.

A possible order effect was alleviated by creating four versions of the questionnaire in which the adjectives were presented in different orders determined by random number generation and then randomly assigning one of the four versions to participants in each delivery method. Random number generation was carried out by Survey Monkey (<http://www.surveymonkey.com>).

Results

Data Cleaning

Missing values were observed on several variables, ranging from 0.3% on the behavior Arrogant to 10.5% on the behavior Virile, with 10 variables exhibiting greater than 5% missing values. Missed responses were not missing completely at random, $\chi^2(23733) = 24621$, $p < .001$. No formal test exists to distinguish between data that are missing at random (MAR) and missing not at random (MNAR). Therefore, we considered the nature of the questionnaire items to infer whether or not missing data on a variable were likely to be related to respondents' actual scores on that variable. We considered it unlikely that a subset of participants would purposively avoid responding to a particular adjective to withhold their "true" score on that adjective. Rather, we concluded that missing values were more likely to be related to participants' patterns of responses across all adjectives. That is, we concluded

that these values were missing at random (MAR). Consequently, missing values were imputed using the expectation maximization algorithm in SPSS 20. For the Crosstabs analysis, imputed missing values were rounded to whole numbers. For the Principal Components Analysis, between one and 14 high univariate outliers observed on eight variables were recoded to .10 above the next most extreme value (Tabachnick & Fidell, 2001).

Descriptive Statistics

Potential items for inclusion in a new androgyny measure were selected after examining participants' responses using SPSS Crosstabs and chi-square analyses. First, an adjective was deemed androgynous if significantly more participants than expected classified it as attributable to "both" genders than to "male", "female", or "neither" gender. Second, the desirability of each androgynous adjective was classified as "desirable", "neutral", or "undesirable" if >50% participants endorsed that classification. For example, 'open-minded' was judged as affiliated with both genders by a significantly larger than expected proportion of respondents (91.7%) and over half the sample rated it as a desirable behavior (64.0%). Similarly, 'persistent', 'fair' and 'friendly' were judged by a significantly larger than expected percentage of respondents as affiliated with both genders and rated as desirable by more than 50% of participants (61.7%, 62.4%, and 79.8%, respectively). Consequently, the above behaviors were among those categorized as positively or pro-socially androgynous (A+). In contrast, adjectives that were attributed to both genders by a significantly large percentage of respondents and were rated as undesirable behaviors by greater than half the sample (e.g., 'cynical' and 'sarcastic') were categorized as negatively, undesirably or anti-socially androgynous (A-).

In total, 68 behaviors were judged as de-gendered (applicable to both sexes). Of these, 40 adjectives were judged as pro-socially androgynous (A+) under this de-gendered model,

and seven (7) adjectives were judged as anti-socially androgynous (A-). (Twenty-one androgynous adjectives were judged as neither desirable nor undesirable). Descriptive statistics for the A+ and A- adjectives are shown in Table 1.

Scale Construction

Principal Components Analysis (PCA) was conducted on the 40 pro-social items using SPSS 20 to identify latent constructs underlying the pro-social (A+) variables. Kaiser's (1960) eigenvalues-greater-than-one rule and Cattell's (1966) scree test indicated eleven and two components in the dataset, respectively. Two to eleven component solutions were extracted and subjected to direct oblimin rotations. All solutions with greater than five components failed to converge. The five-component solution offered the most interpretable solution, which explained 42.94% of the total variance in the dataset. Component one explained 25.91% of the variance in the dataset, component two explained 5.77%, component three 4.08%, component four 3.73%, and component five 3.42%. With .40 as the cutoff for inclusion, six adjectives failed to load on any component (peace loving, resolute, agile, vigorous, courageous, and alert) and one adjective (kind) cross-loaded above .40. Consequently, 33 items were retained. Table 2 presents all retained items with their factor loadings. Components one to three exhibited acceptable internal consistency ($\alpha = .86, .68,$ and $.82$, respectively), however reliability of components four and five was low ($\alpha = .59$ and $.49$, respectively). Internal consistency of all 33 retained items, as a potential single scale, was very high ($\alpha = .88$).

Adjectives that loaded on component one tended to describe positive social interactions (e.g., friendly, courteous, sociable). Consequently, we labeled this component Social Efficacy. Component two captured expressions of Creativity (e.g., artistic, musicality), items on component three reflected Capability (e.g., practical, resourceful, clear-thinking), items on component four captured an individual's Eminence (e.g., worldly, strong, ambitious), and

items on component five tended to reflect Determination (e.g., persistent, dignified). We calculated total component scores by averaging across items. Correlational analyses of the total scores indicated moderate to strong relationships between the five potential A+ subscales (See Table 3).

Discussion

Fifty-six percent of the 121 behaviors assessed were judged as androgynous. Constructs such as 'active' and 'passive' were no longer gender differentiating in the minds of many participants. Much behavior once considered gendered were now considered to apply equally to both sexes; they were simply classified according to their degree of desirability. Thirty-three percent (40) of the original 121 behaviors were judged as pro-socially androgynous (desirable and gender-neutral). Seven were judged as anti-socially androgynous (undesirable and gender neutral). From the 40 desirable behaviors, PCA identified five components that reflected five facets of de-gendered pro-social androgyny: Social Efficacy, Creativity, Capability, Eminence, and Determination. If one adheres to biologically driven difference to any extent, then, as Woodhill and Samuels (2003) theory of differentiated androgyny suggests, none of these components represent innate psychology for either sex.

Participants in this study viewed many of the assessed behaviors as characteristic of both sexes. Consistent with the concept of de-gendered androgyny, almost all characteristics judged as androgynous in the current study are commonly viewed as 'non-innate' behaviors. That is, they do not reflect innately driven gender differences, but instead primarily reflect socially learned or culturally driven behaviors. However, we did find that the relationship items 'sociable' and 'friendly', which some authors have distinguished as relating to female reproductive roles (Buss, 1995; Pfaff, 2011), were classified as androgynous (gender-neutral)

in the current study, while as previously discussed, other research has indicated that women tend to value sociability differently to men.

Significantly, all of our five components are identifiable amongst the character strengths of the Values in Action (VIA) Classification of Strengths (Peterson & Seligman, 2004); the first major project developed deliberately from positive psychology. The five factors we identified for androgyny that were also identified directly or as synonyms by Park, Peterson, and Seligman (2004) were;

1. Capability as skilled performance in whatever domain of life one chooses. It subsumes such behaviors as practical, resourceful, rational, and transparent thinking.
2. Creativity as thinking in productive ways to do things, including but not limited to strictly artistic domains. It subsumes such behaviors as artistic and musicality but is more about creative problem-solving.
3. Eminence as being capable of leading harmoniously and respectfully, encouraging your group to get things done. Eminence subsumes such behaviors as worldly, energetic, and ambitious;
4. Social efficacy or social intelligence as being aware of the motives and feelings of others and oneself, knowing what to do in different social situations, and acting appropriately. It subsumes such behaviors as being assertive, friendly, cooperative, compassionate, tender, patient, courteous, open, considerate, and helpful.
5. Determination as zest, enthusiasm and vigor, living life as an adventure, and not doing things half-heartedly. It subsumes such behaviors as persistence and dignity.

While we acknowledge that synonyms do not capture the exact content of these behaviors, one may argue, as do Park, Peterson, and Seligman (2004), that they capture their character strengths. Various components of our A+ adjectives are virtually tautological with the hope, zest, gratitude, curiosity, love, modesty, and intellectual strength that Park,

Peterson, and Seligman found strongly associated with “life satisfaction” (Park, Peterson, & Seligman, p. 607, 2004). As Aristotle (1962) suggested, well-being is not necessarily an eventual consequence of virtuous action but rather inherent in such action, and so, it would be difficult to argue that any combination of positive behaviors under the patronage of our five components would not be incontrovertibly more beneficial to psychological health and well-being. Interestingly, with the goal of broadening the scope of positive human functioning, Wajsblat (2011) sought to offer the field of positive psychology a better understanding of one positive individual behavior – that of gender role identity. Her analysis of the component factors of the Big 5 indicated that A+ did add significant variance to self-report of well-being when controlling for Neuroticism and Extraversion.

Desirability of all behavior was measured on an ordinal scale; yet, our factor analysis showed that pro-social androgyny is not a one-dimensional construct. All psychological research is statistically more valid when it accounts for between group variability such as between the sexes. Spelman (cited in Gould, 1997) upholds that a general principle of feminist enquiry is to be skeptical about any account of human relations that fail to mention gender. It is the reason why we should not randomly assign participants to groups in any experiment involving ‘people’ without due regard to their sex. ‘Groups’ of people are all female, all male, or some combination of both, and as such this ratio is a statistical confound when ignored in psychological research. It is also the reason why lay reports of ‘people’ doing such and such are an unsatisfactory representation of events; they refer to ‘people’ across the board when in fact, it is often to one sex or the other. They conflate dimorphic behavior into the one sex. However, ours is a scale of within-group difference in that we have treated our mixed-sex subjects as the one genus of contemporary Homo Sapiens where sex is irrelevant. Our scale items do not attempt to classify M and F behavior because that would reinforce the very stereotypes it seems to undermine. We suggest that the five facets

of pro-social behavior identified in this study could form the basis of a new generic continuous measure of pro-social, behavioral versatility (i.e., a new conceptualization of androgyny or neo-androgyny).

Methods used in this current study were designed to represent a more contemporary measure of behavior from which generic levels of androgyny, or rather diversity or versatility could be calculated. Instead of attempting to fit this data as undifferentiated masculinity and femininity into traditional theories of androgyny, the current findings support a new and more precise theory of androgyny; one that makes use of the remaining full repertoire of pro-social behavior, once regarded as masculine and feminine to some degree, yet now more de-gendered and separate from innate difference. In this way, our methodology may be used as a tool in future research to identify further behavioral versatility, or to update the desirability status of behaviors in relation to changing social and cultural norms.

Limitations of this Study

The underlying theory behind this study was developed for Western cultures, while participants were from many diverse cultures, 65 in all. Further, the majority of participants self-selected and were not balanced across numbers of men and women. These matters do raise statistical issues with the lack of random selection that may question normality. The number of missing values was of concern and was highly related to the inclusion of non-native English speaking respondents. Additionally, desirability of behaviors was measured on an ordinal scale whereas PCA/factor analysis requires interval/ratio data. We overcame this problem by treating ordinal variables as if they were continuous (Tabachnick & Fidell, 2001). Although this may yield misleading results (Joreskog, 1994), the property of variables that is crucial to their application is shape and not type (Tabachnick & Fidell, 2001). It should also be noted that Cronbach's alpha for components four and five was very low,

indicating weak internal consistency. While it is believed that the latent construct of interest in the behavioral and social sciences is continuous, all test data are essentially binary because of multiple choice. PCA among the binary variables will not accurately represent the correlations. A better method of analysing categorical or ordinal data assumed to be drawn from an underlying continuous dimension is via tetrachoric correlation (Savalei, Bonett, & Bentler, 2015). Future research on neo-androgyny based on tetrachoric correlation factor analysis of categorical or ordinal data drawn from underlying continuous dimensions may improve validity and reliability.

Most variables in the PCA were positively skewed because they were selected on the basis of being pro-social, where low scores indicated high desirability. We have relaxed the practical limitations in favor of an exploration of the data relative to this new theory. All marker variables are pure variables when they correlate well with only one factor. The 33 variables selected are seen as relatively pure marker variables for each of the hypothesized five components in the solution because they do correlate well (all $>.40$) with only one component each.

Apart from Spence, Helmreich, and Holahan (1979), our imperfect statistical attempt to address the theoretical flaws in Sandra Bem's original and significant theory are better than anything else intending to do so since. We believe this paper is built on a strong theoretical foundation for androgyny, and is at least a statistical starting point for a well-grounded theory.

Conclusion

This initial research lays ground for the empirical replacement of antiquated categorical measures of androgyny with a more contemporary and justifiable continuous one where neo-

androgyny may become a mindset that addresses the concerns of many by not attempting to de-gender the sexes or interfere with individual identity. Future studies could assess the validity of a measure of A+ de-gendered androgyny based on the adjectives identified in this current study and assess the de-gendered androgyny theory by comparing the predictive abilities of A+ de-gendered androgyny and traditionally gendered androgyny.

The significance of stable innate behavioral difference does not negate the benefits of this neo-androgyny because politically gendered and socially determined behavior is inherently gender-neutral and is distinct from, and can co-exist with, innate behaviors. Despite androgyny's ambiguous past and that it was once discredited as a kind of wishy-washy gender identity for either sex, we do admire those amongst us who can express the virtues of both sexes (Woodhill & Samuels, 2004).

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Table 1

Means and Standard Deviations for the Desirability of the A+ and A- Items

Items	Mean	SD	Items	Mean	SD
<u>Socially Positive (A+)</u>					
alert	1.16	0.38	open-minded	1.09	0.33
agile	1.36	0.54	passionate	1.15	0.38
ambitious	1.35	0.53	peace-loving	1.20	0.43
artistic	1.23	0.44	persistent	1.45	0.50
attractive	1.16	0.39	pleasant	1.09	0.29
bold	1.51	0.58	practical	1.20	0.43
calm	1.14	0.38	rational	1.19	0.41
capable	1.04	0.19	resolute	1.54	0.59
cheerful	1.11	0.32	resourceful	1.08	0.28
clear-thinking	1.06	0.23	sociable	1.17	0.42
communicates-well	1.04	0.23	stable	1.15	0.38
confident	1.10	0.31	strong	1.16	0.39
courageous	1.13	0.35	successful	1.19	0.42
courteous	1.10	0.36	vigorous	1.46	0.57
dedicated	1.08	0.30	worldly	1.51	0.65
dignified	1.27	0.48			
fair	1.09	0.31	<u>Socially Negative (A-)</u>		
firm	1.48	0.55	cynical	2.60	0.61
friendly	1.06	0.23	nasty	2.94	0.28
fun	1.11	0.36	prejudiced	2.90	0.32
giving	1.09	0.30	quarrelsome	2.88	0.36
helpful	1.06	0.24	sarcastic	2.51	0.68

imaginative	1.13	0.34	stubborn	2.63	0.59
kind	1.04	0.22	vindictive	2.85	0.41
musical	1.31	0.48			

Notes: All items rated on a 3 point scale ranging from 1) desirable to 3) undesirable.

Table 2

Direct Oblimin Rotated Component Loadings for the Socially Desirable Androgynous Adjectives

	1	2	3	4	5
A+ Adjectives	Social Efficacy	Creativity	Capability	Eminence	Determinati on
Friendly	0.75	0.11	-0.03	-0.04	-0.10
Fair	0.72	0.07	-0.05	-0.06	-0.04
Fun	0.67	0.08	0.07	0.21	-0.09
Courteous	0.63	-0.27	0.06	0.08	0.25
Communicates well	0.62	-0.10	-0.29	0.11	0.01
Pleasant	0.59	0.05	-0.34	0.05	-0.15
Cheerful	0.54	0.28	-0.02	0.07	-0.12
Sociable	0.52	0.03	0.02	0.28	0.10
Dedicated	0.50	0.05	-0.14	0.07	0.16
Calm	0.49	-0.09	-0.04	-0.19	0.32
Musical	0.02	0.75	0.11	-0.04	0.07
Artistic	0.06	0.72	-0.06	-0.01	0.08
Imaginative	0.09	0.56	-0.22	0.04	-0.03
Rational	-0.08	0.06	-0.77	0.04	-0.16
Practical	-0.12	0.09	-0.63	0.14	0.09
Resourceful	0.08	-0.06	-0.58	-0.01	0.30
Open-minded	0.11	-0.13	-0.56	0.06	0.16
Capable	0.20	0.01	-0.47	-0.05	0.14
Helpful	0.29	0.27	-0.46	0.01	-0.20
Clear-thinking	0.34	-0.03	-0.46	0.00	0.14
Giving	0.25	0.26	-0.44	-0.09	-0.11
Stable	0.25	-0.01	-0.41	0.08	0.08

Confident	0.01	0.19	-0.41	0.27	0.02
Worldly	-0.14	-0.09	-0.17	0.59	-0.06
Attractive	0.14	0.19	0.16	0.48	-0.02
Successful	0.16	-0.03	-0.23	0.48	0.08
Passionate	0.00	0.20	-0.03	0.47	-0.05
Ambitious	0.13	-0.12	0.05	0.45	0.12
Strong	0.11	0.02	-0.33	0.45	0.19
Persistent	-0.05	0.08	-0.04	-0.02	0.65
Dignified	0.11	-0.03	-0.10	0.24	0.46
Firm	-0.19	0.22	-0.12	0.01	0.44
Bold	0.02	0.23	0.13	0.11	0.40

Notes. $N = 342$. Retained items loading $> .40$ are indicated in bold.

Table 3

Correlations between Mean Total Scores on the Socially Desirable Androgynous

Components

	1	2	3	4	5
A+ Components	Social Efficacy	Creativity	Capability	Eminence	Determination
Social Efficacy	1				
Creativity	.32	1			
Capability	.63	.41	1		
Eminence	.45	.30	.49	1	
Determination	.30	.38	.36	.31	1

Note: All correlations are significant at $p < .001$, two-tailed