Conceptual models of the playfulness construct: Additive, balanced, or synergistic?

Lynn A. Barnett

Authors' affiliations:
University of Illinois

* Corresponding address: E-mail: Lynnbm@illinois.edu

ABSTRACT

Four conceptual models and measures of adult playfulness were investigated and compared. Each proffers different constitutive dimensions underlying the construct, and argues that the explanation for playfulness lies within the independent or relative contributions of the dimensions, or in their interactive relationship. 646 undergraduate university students with complete data on all four measures, as well as on a self-rated criterion assessment, participated in the study. The findings indicated the extent to which each model was best regarded as an additive, balanced, or synergistic relationship, and further revealed their differential efficacy and predictive power in capturing and elucidating the adult playfulness construct. An alternative model is proposed in which the most powerful predictors are synthesized. Contributions toward an increased understanding of playfulness in young adults were identified from the collation of results and their competing hypotheses, and directions for the trajectory of further research utilizing the conceptual frameworks were presented.

Keywords: adult playfulness, playfulness models, playful personality, playfulness theory

1. Introduction

For well over a century, scholars have written about the centrality of play in people’s lives, and hypothesized about its essence. Whether characterizing it as an instinct (McDougall, 1923), an evolutionary imperative (Chick, 2001; Groos, 1901; Smith, 1982), a basic human need (Murray, 1938), or a learned response shaped by cultural and environmental reinforcers (Roberts & Sutton-Smith, 1962), there has been little dispute that play is integral to the lives and well-being of peoples and species (Bruner, 1972; Pellegrini, 2009; Pellegrini, Dupuis, & Smith, 2007; Proyer, 2013). Recognizing there’s a consistency to people’s play patterns and preferences, Brown (2010) identified the existence of play personalities by linking neuroscience with the naturalistic observations of animals and humans that have been chronicled across a multiplicity of environments and contexts. He proposed that each person has a dominant play style that can be classified into one of eight types. The consistency of play has led to more recent theoretical formulations focusing on the internal attributes of the player,
and positing the existence of a playful attitude (Jackson, 1984; Murray, 1938), predisposition (Goldberg, 1990; Jackson, 1984), virtue (Peterson & Seligman, 2004; Proyer & Ruch, 2011), or trait (Cattell, 1950; Lieberman, 1977; Shen, Chick, & Zinn, 2014a).

More specific definitions of adult playfulness have been emerging as the construct gains increased interest and empirical attention. While children’s playfulness has been much easier to observe and chronicle because of its physicality (Barnett, 1990; Knox, 1996; Lieberman, 1977), playfulness in adults has been characterized as much more cognitively-based with affective undertones (Barnett, 2007; Bozionelos & Bozionelos, 1999; Glynn & Webster, 1992; Shen et al., 2014). What’s been common to all these efforts has been recognition of the ubiquity of playfulness in adults, the view that it represents an individual difference predisposition (Barnett, 2007; Glynn & Webster, 1992; Lieberman, 1977; Proyer & Jehle, 2013; Shen et al., 2014a, b), and recognition of its general stability across environments and situations (Bozionelos & Bozionelos, 1999; Lieberman, 1977; Yager, Kappelman, Maples, & Pryutok, 1997). However, articulated definitions of adult playfulness have varied and theoretical explanations and measurements have diverged. The present study represents an attempt to evaluate each of the extant theories and constitutive dimensions of playfulness, and to probe each one in greater depth to explore how their definitional components operate.

2. Review of Related Literature

2.1. Conceptual Models of Adult Playfulness

Efforts to articulate a definition and nomological framework (Cronbach & Meehl, 1955) to capture adult playfulness have been undertaken. Of the four predominant models that exist, two (Barnett, 2007; Glynn & Webster, 1992) have employed an inductive strategy whereby they have utilized observations, vocabulary, or taxonomies for playfulness to generate a measure and subsequent model. By exploring convergences as well as divergences, they have postulated a definition for playfulness and conjectured about its underlying dimensions. In contrast, two other conceptualizations began with the extant literature, and extracted common elements to advance a playfulness model and measure (Proyer, 2017; Shen et al., 2014a). While there is some overlap, each of these models offers its own definition, dimensions, and assessment instrument. However derived, the originators have summed or averaged items representing constitutive components to create a gauge of adult playfulness. However, none of these models has taken into account the possible additive, relative, or synergistic effects among the components. The purpose of this study, therefore, was to empirically examine the extent to which each of the conceptualizations of adult playfulness possesses different and unique explanatory powers, and to assess the independent or interactive roles of the elements that comprise each adult playfulness model. The study was undertaken to further explicate the playfulness construct by testing the basic assumptions underlying each of the extant models, and evaluate and contrast their unique and explanatory powers in their ability to predict playfulness in young adults.

2.1.1. The Adult Playfulness Scale

Adult playfulness was defined by Glynn and Webster (1992) as a multidimensional construct, encompassing cognitive, affective, and behavioral components, which together constitute a continuum along which individuals range from low to high (p. 85). The authors viewed playfulness as
a “part of the normal personality” (p. 84) that shows consistency and stability across situations and circumstances. Following their observations that individuals often pursue their work activities in a playful fashion, the authors stressed the importance of assessing such individual differences in work attitudes and performance. They endeavored to design a measure “with the goal of distinguishing high playfulness from low playfulness in the workplace” (p. 90); “the scale was developed to maximize differences between work and play” (p. 99). Volunteer adults were asked to “make judgments independently about the meaning of play and work” (p. 90), and a scale was constructed with items showing strong discrimination between work and play.

Glynn and Webster (1992) conducted five studies with different sample members (college undergraduate and graduate students, full-time company employees) at five different sites (four universities, one public utility company), and utilized two different testing methods (three were laboratory studies, two were surveys). Five factors were discovered based on 25 adjective pairs: Spontaneous (“unconstrained, voluntary, and need independent”), Expressive (“evocative and enjoyable”), Fun (“humorous and fun-loving”), Creative (“inventive”), Silly (“nonsensical, purposeless, or irrational”) (p. 92). Across five studies, no relationship with age was evident, and findings for gender were mixed – in one study a positive correlation was found, in another study the correlation was negative, and in three studies no relationship resulted. A sample of highly intelligent adults yielded similar playfulness total scores, although efforts to replicate the factor structure were not reported (Glynn & Webster, 1993). Despite some objections (Fix & Schaefer, 2005; Kruger, 1995; Mixter, 2009), the APS continues to be used in adult playfulness research (Bozionelos & Bozionelos, 1999; Proyer, 2011, 2012a, 2014b), and for this reason it was included in the present study.

2.1.2. The Playfulness Scale for Young Adults

Barnett’s (2007) efforts to conceptualize and assess adult playfulness stemmed from the literature describing playfulness in young children (cf. Barnett, 1990, 1991; Lieberman, 1977), which precipitated questions about whether there was a developmental trajectory that could be detected into and possibly through adulthood. Early findings that adults did appear to recognize the term, and that they had a fairly clear idea of what it signified, instigated more focused empirical research. Studies of adult playfulness attempted to capture this quality in young adults with the construction and testing of the Playfulness Scale for Young Adults (PSYA; Barnett, 2007).

Four dimensions were found to underlie adult playfulness in college students (Barnett, 2007). The Comedic dimension reflected individuals who frequently clown around, joked, teased, and were regarded (by themselves and others) as funny and humorous. Gregarious was the label ascribed to the dimension reflecting those who are cheerful, happy, friendly, outgoing, and sociable. The third dimension, Uninhibited, emphasized the spontaneous, impulsive, adventurous, and unpredictable qualities that seem to characterize playful people, and the Dynamic dimension assessed how active and energetic they were considered to be. From this research, a definition of adult playfulness materialized as, “the predisposition to frame (or reframe) a situation in such a way as to provide oneself (and possibly others) with amusement, humor, and/or entertainment” (Barnett, 2007, p. 955). This conceptualization situated playfulness in adults within the perceptions of the individual, and stated it was instigated for a hedonistic purpose.
2.1.3. The Adult Playfulness Trait Scale

Shen and her colleagues (Shen, et al., 2014a, b) asserted they were adopting a “latent network trait conceptualization” in which adult playfulness was regarded as “a unique combination of several cognitive qualities that interact with each other to form a relatively stable network and jointly drive” (p. 62) play behavior. In their formulation they further conceptualized playfulness as a specific form of intrinsic motivation that was centered about “the unique emotional outcome resulting from it” (p. 64) – fun. They identified “Fun-seeking” as the “more precise term to capture the distinctive motive that defines playfulness” (p. 64).

A conceptual model was devised in which there were three primary dimensions of Fun-seeking Motivation (“motivation to seek fun”), Uninhibitedness (“an ability to negotiate constraints that lead to a free mental state”), and Spontaneity (“a mental propensity to respond promptly without deep thought or meditation”). Fun-seeking Motivation was further comprised of three secondary factors labeled “Fun Belief” (“believing in the value of fun in life”), “Initiative” (“actively creating fun activities”), and “Reactivity” (“being responsive to fun stimuli”) (all Shen et al., 2014a, p. 68). In developing an assessment tool, they proposed that the most prudent approach was to separate “characteristics pertaining to overt behavioral concomitants . . . and conceptualize the playful trait exclusively in terms of inner dispositional qualities” (p. 64). Specific items were generated from focus groups of highly educated individuals, and an expert panel contributed to a final version of the Adult Playfulness Trait Scale. The authors asserted that “researchers may employ the entire APTS to assess an individual’s overall level of playfulness, or employ an APTS subscale to address a specific research question” (p. 364).

2.1.4. OLIW (Other-directed – Light-hearted – Intellectual – Whimsical) Model

In an ambitious effort to synthesize the diverse literature and extract areas of consistency, Proyer and Jehle (2013) compared 17 adult playfulness measures. The assessments ranged from the stand-alone adult playfulness scales, to subscales contained within other measures, typically those evaluating personality. The authors detected five communal factors that they labeled and described as follows: Humorousness (“having a good sense of humor, doing everything that one does with humor, being seen as humorous by others, entertaining others with jokes, liking nonsense and absurdity”), Cheerfulness-Uninhibitedness (“being in a positive mood, optimistic, uninhibited; cheerful; not being shy or reserved in contact with others”), Expressiveness (“being lively, offensive, emotional, volatile, wild; enjoying other people’s attention; liking excitement; talking a lot”), Other-directed (“preferring to work with others than working alone; expressing one’s mood and sharing joy and fun; liking to play with children; preferring to laugh with others than laughing at others; being sensitive”), and Intellectuality-Creativity (“swimming against the current; having lots of ideas; developing new combinations; liking to solve problems (in many different ways); being ingenious, creative, intellectual”) (all p. 813). The authors observed that a common element in the collation of these 17 playfulness measures was humor, although the senior author has conducted research demonstrating that humor and playfulness are quite independent. They concluded by stressing the need for “a better understanding of what contents are being covered in playfulness questionnaires” and called for the “development of a new comprehensive measure of playfulness” (p. 815).

Proyer continued to test and refine the conceptualization and measurement of adult
playfulness, which culminated in the Other-directed – Lighthearted – Intellectual – Whimsical (OLIW) model. In subsequent research (Proyer, 2017) with adults across a broad age range (18 to 84 years), a four-factor model resulted. Proyer reported that the two playfulness facets of Other-directed (O) and Intellectual (I) were derived directly from his earlier research (Proyer & Jehle, 2013), although a number of alterations were discernible. Description of the O component was adjusted to encompass a desire to alleviate tension or simply enliven a tedious social interaction (“enjoying to play with others; using ones playfulness to make social relations more interesting or loosen up tense situations with others; enjoying good-heartedly teasing”) (p. 114), and references to working alone, sensitivity, or expressiveness were deleted. In the new version, items reflecting the “creativity” essence were retained (“liking to play with ideas and thoughts; liking to think about and solving problems; thinking about and trying different solutions for a problem; preferring complexity over simplicity”) (p. 114), although the term was deleted from the facet label. A Lighthearted (L) facet replaced the previous Cheerfulness-Uninhibitedness one, and focused more on the lack of worry about consequences to one’s actions and improvising (“seeing life as a game and not worrying too much about future consequences of one’s own behavior; liking to improvise; reserving time in the daily routine for play”) (p. 114) than an upbeat mood, optimistic outlook, or outgoing predisposition. A final component of this model was termed “Whimsical” (W), which the author described as “finding amusement in grotesque and strange situations; having the reputation of liking odd things or activities; finding it easy to find something amusing for oneself and/or others in everyday life situations and interactions” (p. 114). This last facet reinterpreted the previous “humorousness” to instead depict an enjoyment of “unusual and odd objects or persons” (p. 114).

Arising from this research, Proyer (2017) defined playfulness as “an individual differences variable that allows people to frame or reframe everyday situations in a way such that they experience them as entertaining, and/or intellectually stimulating, and/or personally interesting. Those on the high end of this dimension seek and establish situations in which they can interact playfully with others (e.g., playful teasing, shared play activities) and they are capable of using their playfulness even under difficult situations to resolve tension (e.g., in social interactions, or in work type settings). Playfulness is also associated with a preference for complexity rather than simplicity and a preference for—and liking of—unusual activities, objects and topics, or individuals” (p. 114). A careful reading of this definition appears to propose that playfulness is a unitary construct that is comprised of (and defined by) the characteristics encompassed by the four facets. However, in the studies (Proyer, 2017) designed to construct, replicate, and validate the OLIW measure, the four facet summary scores are treated independently and are not combined to yield an individual’s playfulness valuation. To establish convergent and discriminant validity, each of the facet scores is correlated with extant measures of playfulness, and although an aggregate score was calculated across the constituent dimensions of the other scales, this was not done for the OLIW. In the presentation of this research, O, L, I, and W are sometimes referred to as playfulness “components” yet occasionally they are referenced as playfulness “types.” The finding that is suggestive that they are meant to be considered individually, is the poor statistical fit with a one-factor solution, suggesting the absence of a primary composite playfulness factor. It is thus not clear, as of yet, whether Proyer seeks to suggest an additive, interactive, or balanced conceptualization to depict play-
fulness, or whether instead each of the facets should be uniquely interpreted as embracing the playfulness construct as extant practices have demonstrated. For this reason, and to contribute to the progression of the OLIW model, it is included in the present study.

2.2. Hypotheses

The research question that provided the impetus for the study and guided its design and procedures was to individually and comparatively assess the extent to which the four conceptualizations were predictive of playfulness in adults. Each of these models hypothesizes different constituent components (variously labeled dimensions, factors, facets), as well as interrelationships among them, such that an examination of their efficacy in explaining playfulness entailed investigating their independent, combined, or interactive predictive power. A test of additive, relative (balanced), and interactive (synergistic) hypotheses for each playfulness model was undertaken to address this research question.

2.2.1. Additive Hypothesis

The additive hypothesis proposes that each dimension of the model will uniquely contribute to the explication of the playfulness construct. This hypothesis has been the one that has been most frequently seen in the few studies assessing the validity of each adult playfulness measure. In virtually all cases, playfulness has been assessed by adding scores on the dimensions together without considering whether one might weigh more heavily than the others in predicting playfulness. The simple procedure of combining the dimensional scores (calculated as the simple sum or mean of the items comprising it) may have masked whether each dimension uniquely contributed to the effect adult playfulness had on the outcomes, since they could have made up for each other’s contribution. This hypothesis was tested for each of the theories by examining the contribution of each of its constitutive dimensions while controlling for the others. Specifically, it was hypothesized that if the additive model was operative:

\[ H_1: \text{There will be a positive relationship between each of the playfulness dimensions after controlling for the effect of the other dimensions on measures of adult playfulness.} \]

2.2.2. Synergistic Hypothesis

The synergistic hypothesis proposes that all of the constituent dimensions must be present for an adult to be considered playful. This approach states that each dimension is necessary but not sufficient for adult playfulness to be present, and that as they quantitatively increase, corresponding effects on playfulness will be observed. This second hypothesis is in contrast to the previous additive one in that it posits that each dimension is necessary for playfulness to occur, but that it could possibly be sufficient to increase adult playfulness scores. A test of this hypothesis requires analysis of the highest-order interaction among the dimensions, but all lower-order interactions were also investigated as an indication that there is partial support for a synergistic relationship.

\[ H_2: \text{The highest-order interaction will have a significant effect on adult playfulness.} \]

2.2.3. Balanced Hypothesis

The balanced hypothesis states that all of the dimensions must be satisfied to the same degree in order for an adult to be playful. This hypothesis predicts there would be minimal discrepancies between the dimensions comprising the model. The argument underlying this hypothesis is that
a highly playful person would be an individual who is high on all dimensions, because it is important to have balance to achieve the outcomes associated with playfulness. A balanced conception of playfulness, therefore, is one where there are low fulfillment discrepancies between all of the dimensions (Sheldon & Niemiec, 2006).

H2: A balance in dimensions will explain the variance in adult playfulness over and above the main effects of the individual dimensions.

3. Method
3.1. Participants
Undergraduate university students provided responses on all playfulness measures for both scale construction and validation. It was determined that a college student population was the most appropriate for the present study in order to replicate the preceding samples that were utilized in the development and testing of the models and assessments under scrutiny. A total of 646 students for whom there was complete data, and enrolled full-time at one of two large universities in the Midwestern United States, were respondents in the study. Invitations to participate were extended to those enrolled in four upper-division general education classes, and extra credit was offered for volunteering. Slightly more of the participants in the study were female (53%), and there was an age span of 19 to 26 years (M = 22.74, SD = 1.83). Fifty-four percent of the students self-identified as Caucasian, 27% reported being African American, 18% were Asian American, 5% were Hispanic/Latino, 4% indicated bi- or multi-racial, and 2% declined to respond. Sample members were fairly evenly divided among sophomores (34%), juniors (37%), and seniors (29%). Over one-half (54%) of the participants were employed at the time of data collection – only a small number were working 30 hours per week or more (3%).

3.2 Measures
3.2.1. Playfulness Self-ratings
The criterion measure of adult playfulness was developed from a compilation of items utilized in previous research (Barnett, 2007; Proyer, 2012b, Shen et al., 2014a). The Short Measure of Adult Playfulness (Proyer, 2012b) consists of five items characterized by the author as a general unidimensional measure of playfulness (“I am a playful person”; “Good friends would describe me as a playful person”; “I frequently do playful things in my daily life”; “It does not take much for me to change from a serious to a playful frame of mind”; “Sometimes, I completely forget about the time and am absorbed in a playful activity”). The SMAP was found to correlate highly with the OLIW and was utilized for convergent validity testing in the development of the OLIW scale (Proyer, 2017), which precluded its use in the present study. In research leading to the development of the Playfulness Scale for Young Adults (Barnett, 2007), university students were asked to respond to the statement “I am a playful person” and to the question “How playful do you think you generally are?” utilizing a 10-point scale (“very” to “not at all”). In validity testing for the Adult Trait Playfulness Scale, Shen et al. (2014b) measured the “average tendency to engage in playful behavior” (p. 355) with five items, including “I like to play in my mind,” “I often do playful things when I am by myself,” and “I often do playful things when I am with other people”. The collation of these assessments resulted in the criterion measure of adult playfulness used in the present study comprised of the four statements “I like to be playful”, “I am not a playful person” (reverse scored), “People who know me would describe me as playful”, and “I often do playful things.” A 7-
point response scale was used, with endpoints labeled “sounds exactly like me” and “doesn’t sound at all like me” and the mean was calculated. Internal consistency was found to be high (alpha = .91), and principal components analysis with promax rotation revealed the items all loaded on a single factor (eigenvalue = 2.88), explained 74.96% of the total variance, and indicated loadings all exceeding .69 (range of .69 to .87).

3.2.2. Adult Playfulness Scale

The Adult Playfulness Scale (APS; Glynn & Webster, 1992) utilizes a 7-point Semantic-Differential format that asks respondents to rate themselves on 25 adjective pairs in response to the request “to describe how you would characterize yourself in general” (p. 90). Volunteer adults were asked to “make judgments independently about the meaning of play and work” (p. 90) for 63 semantic-differential items with an additional pair of “playful-serious” (utilized as a criterion measure in later validity testing). A scale was then constructed “by selecting those adjective pairs which evidenced good discriminant validity in differentiating work from play and had face validity as a personality measure” (p. 90). The 64 pairs that were originally generated from participants’ responses were reduced to 31, and instructions to respondents preceding the adjective pairs asked them “to describe how you would characterize yourself in general” (p. 90). A total playfulness score was calculated as the sum across the items (with two reverse coded). The pairs were found to comprise the five factors of Spontaneous, Expressive, Fun, Creative, and Silly. The five factors collectively explained 57.5% of the total variance; Cronbach alpha coefficients ranged from .83 (Spontaneous) to .73 (Silly). Test-retest reliability across a one-month interval was satisfactory, and based on correlations with various measures the authors concluded validity was demonstrated. No age differences were detected, and sex differences were mixed – in one study males were higher, in another females were higher, and in the remaining three studies no relationships were found.

3.2.3. Playfulness Scale for Young Adults

The Playfulness Scale for Young Adults (PSYA; Barnett, 2007) is comprised of adjective descriptors to which respondents reply about the extent to which they feel each one is characteristic of them. The incomplete stimulus statement “I am ___” is given, followed by the descriptors, and respondents are asked to insert each of the adjective descriptors and then reply accordingly. Responses range from “1” through “10” with endpoints marked “not at all/very little” and “a lot/very much”; an additional space is labeled “don’t know”. Focus groups generated a compendium of descriptors, and 15 were found to show significant discrimination between respondents high and low in self-rated playfulness, and also between the characterizations of familiar others who were deemed to be “highly playful” and those who were described as “not very playful at all”. Factor analysis yielded four factors with their component descriptors as follows: Gregarious (cheerful, happy, friendly, outgoing, sociable), Uninhibited (spontaneous, impulsive, unpredictable, adventurous), Comedic (clowns around, jokes/teases, funny, humorous), and Dynamic (active, energetic). Internal consistency reliability for each of the factors was satisfactory (Gregarious $\alpha = .87$; Uninhibited $\alpha = .96$, Comedic $\alpha = .78$, Dynamic $\alpha = .80$), collectively explaining 70.90% of the total variance. In subsequent studies of undergraduate university students, the factor structure was reproduced and content, construct, convergent, divergent, and discriminant validity were obtained (Barnett 2007, 2011, 2011-2012; Magnuson & Barnett, 2013). Investigation
of sex differences showed that the same factor matrix was obtained for both males and females and accounted for more explained variance for females (69.3% for males, 76.4% for females). Some sex differences were detected on individual descriptors (males > females for active, clowns around, funny; females > males for cheerful, friendly, happy), however, the factor structure and multivariate analyses showed no general sex effect or interaction with high and low playfulness groups (all \( p > .05 \)). It was therefore concluded that the PSYA could be effectively used to predict adult playfulness for both male and female young adults.

### 3.2.4. Adult Playfulness Trait Scale

Following from their definition that playfulness is “the internal disposition or mental propensity to engage in playful behavior” (APTS; Shen et al., 2014a, b), a conceptual model comprised of a general playfulness factor with three dimensions was developed. The first dimension, labeled Fun-seeking Motivation is measured by a total of nine items, three subdimensions: two items assessing a Fun Belief subdimension (e.g., “I think fun is a very important part in life”), four items for Initiative (e.g., “I can make almost any activity fun for me to do”), and a Reactivity subdimension with three items (e.g., “I enjoy fun activities that other people initiate”). The second dimension is Uninhibitedness, with five statements to measure it (e.g., “I understand social rules but most of the time I am not restricted by them”). Spontaneity, the third dimension, has five items (e.g., “I often pursue my spur-of-the-moment thoughts”). The response scale for all 19 statements utilizes a 7-point Likert-type scale with endpoints labeled “strongly disagree” and “strongly agree.”

Items for the APTS were generated from volunteers meeting in focus groups, and an expert panel provided feedback, and evidence of face and content validity. A convenience sample completed 32 items online, which served as the data for identifying a factor structure and reliability and further validity testing. Results showed moderate to good internal consistency reliabilities for the total scale (\( \alpha = .87 \)) and its dimensions of Fun-seeking Motivation (\( \alpha = .83 \)), Uninhibitedness (\( \alpha = .68 \)), and Spontaneity (\( \alpha = .87 \)). Subsequent studies (Shen et al., 2014a, b) of correlates as well as individuals nominated by a familiar other as high or low in playfulness provided evidence for the predictive, concurrent, and convergent validity of the APTS.

### 3.2.5. The OLIW (Other-directed – Lighthearted – Intelligent – Whimsical) Model

The OLIW is a 28-item instrument with 7 items measuring each of the four playfulness facets of Other-directed (e.g., “I have close friends with whom I can just fool around and be silly”), Lighthearted (e.g., “Many people take their lives too seriously; when things don’t work you just have to improvise”), Intellectual (e.g., “I can always think of something to do and I am never bored”), and Whimsical (e.g., “I have an unusual habit or an uncommon hobby”). Respondents are instructed that the 28 statements refer to their general “habitual actions and attitudes” and instructs they indicate the extent to which they agree or disagree utilizing a 7-point scale (ranging from “strongly disagree” to “strongly agree”). After inverted coding, a mean score is calculated for the 7 items comprising each facet, which is then input into statistical analyses. Each of the facets should be considered separately; there is no composite playfulness score recognized.

Reliability and validity testing on each of the facets yielded reasonable results. Three of the four facets showed satisfactory internal consistency reliability (the coefficient for Other-directed was relatively low by conventional standards), ranging from an
alpha coefficient of .66 to .79 in two samples of adults aged 18–84 years. Test-retest reliability on a subset of items after a three month interval did not show much decline from its initial administration for any of the facets (O: .77 to .74; L: .80 to .77; I: .73 to .67; W: .87 to .84). Convergent and discriminant validity were established for all facets. No differences between males and females were shown in any of the testing.

3.2.6. Sex as a Control Variable

The findings addressing a relationship between sex and playfulness have heretofore been equivocal, finding some (Barnett, 2007, 2011; Bozionelos & Bozionelos, 1999; Proyer, 2014a, b; Proyer & Jehle, 2013) or no (Glynn & Webster, 1993; Proyer, 2014a, b, d, 2017) differences between male and female sample members, or failing to explore any such relationships (Glynn & Webster, 1992; Shen et al., 2014a, b). Due to these ambiguous findings, sex was included in the present study and dichotomously coded, where 0 represented “female” and 1 indicated “male.”

3.3. Procedure

Students who volunteered to participate in the study were contacted by email and invited to attend one of six sessions to complete the instruments. All of the sessions were held in the same classroom, with ample space to allow at least one vacant seat on all sides of each respondent. Upon entering the room, students were provided with a packet containing the instruments, which were collected and scanned by an assistant to check that there were no blank pages as each student departed. The order of presentation of the instruments was randomized when assembling the packets. The investigator was present at all sessions to address questions or provide clarification if requested. A perfect response rate at five of the six sessions was obtained, with one missing packet detected in the sixth session. Completion times were comparable across sessions, and averaged 12 minutes (range: 8 to 17 minutes).

3.4. Data Analyses

3.4.1. Preliminary Analyses

Before undertaking statistical efforts to determine whether the dimensions in each scale are additive, synergistic, or balanced, it was necessary to determine that the sample data yielded scale descriptives that were comparable to those of the originator, and conventionally acceptable. Normality was determined visually using histograms, P-P and Q-Q plots (Field, 2009), as well as by conducting the Shapiro-Wilk statistical test (Thode, 2002) and the use of standardized skewness and kurtosis scores.

Analyses were then conducted on each of the playfulness measures to ensure that their constituent dimensions were also obtained with the present data. To verify that the factor structures were the same as those in the original model, principal components analyses with promax rotation (the dimensions were expected to be related, as shown in the original data) were employed. Stringent rules for the replication of factors and retention of items were imposed on all resulting factor structures (Nunnally & Bernstein, 2007): an item had to have a loading of .50 or higher on the construct under consideration, the item had to have a maximum cross loading of .35 on the other factors, and there had to be a differential of .20 or greater between each of the factors. In addition, Cronbach’s alpha coefficient was computed on items comprising each dimension.
3.4.2. Hypothesis-testing

As a test of the first hypothesis – that the components of each model were additive – the dimensions were entered as the second block in the regression analysis, following specification of sex in the first block. A test of the hypothesis that the model’s dimensions were synergistic entailed a repeat of the regression analysis from the first hypothesis with the addition of a third block containing all interactions among the dimensions. Interaction terms often create multicollinearity problems because they tend to be correlated with main effects, therefore, the variables were centered before multiplying them to create each interaction term.

To test whether the balance between dimensions was the best predictive model (Hypothesis Three), an additional fourth block was added to the previous three. In this fourth step, the difference between each pair of dimensions was calculated and the absolute value of these difference scores were summed. To enable the comprehensibility of this variable where a higher value would indicate more balance (essentially reversing the variable), the resulting summed difference scores were subtracted from the highest observed score, following the procedure employed in previous studies (cf. Sheldon & Niemiec, 2006).

4. Results

Presentation of the results for each playfulness scale begins with descriptive statistics and comparisons with originating research studies. In addition, efforts to replicate internal consistency reliabilities for the constituent dimensions, and analyses to attempt to reproduce the factor structure are described. Following these preliminary analyses, findings from the tests of the three hypotheses regarding whether the relationships between the dimensions are additive, synergistic, or balanced, are presented.

4.1. Adult Playfulness Scale

4.1.1. Preliminary Analyses

Descriptive statistics (Table 1) showed that the present sample compared well to the original samples (Glynn & Webster, 1992) – students as well as company employees – as demonstrated by inspecting the item means, standard deviations, and normality of the distribution. Means and standard deviations across items for the present sample ($M = 108.66; SD = 20.23$) paralleled those obtained with the student (undergraduate students: $M = 112.17, SD = 16.54$; graduate students: $M = 102.20, SD = 22.83$; MBA students: $M = 114.61, SD = 18.85$; management students: $M = 113.06, SD = 18.42$) and adult samples (utility employees: $M = 107.82, SD = 17.82$; Mensa members: $M = 110.11, SD = 20.82$) in the original studies (Glynn & Webster, 1992, 1993). In addition, statistical testing indicated no significant departure from a normal distribution (Shapiro-Wilk = .92, $p > .10$; $Z$ skewness = 1.26, $p > .10$; $Z$ kurtosis = 1.18, all $p > .10$).

The data were then subjected to principal component analysis to validate the factor structure of the APS. The one difference between this analysis and the original one (Glynn & Webster, 1992) was the use of an oblique rotation (rather than an orthogonal one) as several of the stems in the APS were used in more than one adjective pair so that it was reasonable to conclude that the factors were correlated. However, the use of either rotation could not yield a solution – in both cases (as well as with an unrotated attempt), the analyses exceeded maximum iterations (set to 75 where default = 30). Following this failure to obtain a result, the data were explored to determine whether issues of sample size or multicollinearity might be present by inspect-
ing the diagonals of the anti-image correlation matrix. Upon close inspection, a large number of strong positive relationships among the items were detected. Bartlett’s test of sphericity ($\chi^2 = 2.19, p > .10$) revealed that the correlation matrix departed significantly from an identity matrix (thus, the correlations were significantly different from zero). The Kaiser-Meyer-Olkin test ($KMO = .72$) revealed diffusion in the pattern of correlations among the items, resulting in being labeled worse than “mediocre” (Hutcheson & Sofroniou, 1999). Although extreme multicollinearity (the variables being very highly correlated, $r \geq .8$) was found (Haitovsky’s $\chi^2 = 1.78, p > .10$; Haitovsky, 1969; Rockwell, 1975), which could be one cause of the problem in separate factors being identified, it is not clear that this would result in the failure to derive a solution as principal component analysis is less concerned with multicollinearity issues than other methods (Field, 2009). Thus, while it is not clear from these analyses why a component matrix could not be obtained, it is however sufficient to conclude that the APS was not able to be replicated or validated. Additionally, calculation of internal consistency reliabilities for the items comprising the original factors (Glynn & Webster, 1992) were all substantially low (all $\alpha \leq .23$) and deemed unacceptable (DeVellis, 2012).

Table 1. Descriptive statistics, correlations, and internal consistency reliability coefficients ($\alpha$)* for playfulness scales

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* alpha coefficients are displayed on the diagonal; decimal points are omitted from correlations

\(^1p<.05; \(^2p<.01; \(^3p<.001\)

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4.1.2. Summary

The pioneering work of Glynn and Webster in efforts to construct a measure of adult playfulness provided the impetus for much of the empirical work that ensued. The initial selection of items (almost 80%) to comprise the APS was directed toward adjective pairs that met the assumptions underlying the Semantic-Differential format (Osgood, Suci & Tannenbaum, 1957), so it is perhaps not surprising that the psychometric properties of the APS appeared to be reasonable. However, the failure to obtain a factor matrix, or to demonstrate satisfactory internal consistency reliability, might be interpreted to suggest that future use of the APS as a measure of adult playfulness might be ill-advised.

The Adult Playfulness Scale has also been criticized on other accounts (Fix & Schaefer, 2005; Guitard, Ferland, & Dutil, 2005; Kruger, 1995; Mixter, 2009; Shen et al., 2014a). First, there are questions about why the “playfulness-serious” pair loads only on one of the five factors, as well as, to a lesser degree, why “serious” was chosen as the opposite of playfulness. Second, several of the adjective descriptors appear multiple times across factors, thereby questioning the uniqueness of the factors, the variable meanings attached to the items, and adherence to the psychometric properties required for scale generation and analysis. For example, “disciplined” appears in the first factor as both the opposite of “spontaneous” and also “free-spirited”, “fun” is in both the first and third factors as the antonym for “earnest” and “boring”, and “passive” is in both the second and fourth factors opposite both “animated” and “active”, respectively. Third, issues have been raised about how validity testing was conducted and about claims that each type was supported. Fourth, the authors utilized their scale as though it was unidimensional, thereby ignoring its multidimensional structure and their own definition of playfulness (Mixter, 2009; Shen et al., 2014a). Finally, the presumption that playfulness is an opposing force to work that can be isolated and independently assessed has been debated and distrusted (Csikszentmihalyi, 1975).

4.2. Playfulness Scale for Young Adults

4.2.1. Preliminary Analyses

Descriptives for the PSYA (Table 1) were closely aligned with those in the initial study (Barnett, 2007), which was anticipated since the population and sample characteristics were quite similar (undergraduate students attending a large Midwestern university). The current sample mean ($M = 6.89$) and standard deviation ($SD = 1.12$) on the 10-point response scale approximated that obtained with the original sample ($M = 6.68$, $SD = .85$). All of the graphs and statistical tests revealed the data followed a normal distribution ($Shapiro-Wilk = .97$, $Z_{skewness} = .19$, $Z_{kurtosis} = .54$, all $p > .05$).

The results of the principal components analysis verified that the same factor structure as in the original research (Barnett, 2007) was replicated with the present data. Four factors were obtained and each item retained membership in its original factor and all met the inclusion criteria. Eigenvalues all exceeded unity, and based on parallel analysis (Cokluk & Kocak, 2016; Horn, 1965), were retained for the original four factors. The factors explained 66.94% of the total variance, which was somewhat less than that obtained in the original research (70.90%). Internal consistency reliabilities for the Gregarious, Uninhibited, Comedic, and Dynamic factors were all in the acceptable range ($\alpha = .78, .86, .81, .80$, respectively), and comparable with those in the original study ($\alpha = .87, .96, .78, .80$, correspondingly). With reproduction of the structure and reliability of the PSYA, the items comprising each factor were retained,
and were utilized in the ensuing regression analyses.

4.2.2. Hypothesis 1: Test of Additive Effects

To test whether the PSYA factors were additive, the four dimensions were input into the regression as a second block, following the sex variable that constituted the first block. Results of the regression indicated that the Comedic dimension was the only significant predictor of self-rated playfulness ($\beta = .084$, $p < .05$; Table 2), and the Uninhibited factor approached conventional levels of significance ($\beta = .058$, $p < .07$). The nonsignificant findings for the other two PSYA dimensions indicated that the dimensions for this playfulness scale were not additive. A test of the independent effects of the four dimensions collectively accounted for 11.60% of the total variance, and with sex controlled, the model was statistically significant ($F(5,641) = 39.36; p < .01$).

4.2.3. Hypothesis 2: Test of Synergistic Effects

To test the synergistic effects of the PSYA factors, the regression analysis utilized in the additive model was repeated with the addition of a third block consisting of all interactions between the dimensions. A sizeable increase in the variance was observed ($R^2_{\text{change}} = 42.30\%$, $p < .001$) contributing to the significant regression model ($F(14, 632) = 19.42; p < .01$). Results of the regression analysis (Table 2) revealed that the Comedic x Uninhibited ($\beta = .336$, $p < .001$), Comedic x Uninhibited x Dynamic ($\beta = .167$, $p < .05$), and Comedic x Uninhibited x Gregarious ($\beta = .152$, $p < .05$) interactions were statistically significant. A positive relationship between playfulness and the Comedic x Uninhibited and Gregarious or Dynamic dimensions resulted only when scores on the Comedic and Uninhibited dimensions were both high; $t$-tests indicated that the slopes were significantly different from each other ($t = 5.69$, $p < .001$ for Gregarious, and $t = 4.83$, $p < .001$ for Dynamic). When Comedic scores were low (at least one standard deviation below the mean), the scores on the other dimensions did not discriminate high from low playful individuals. Thus, the second hypothesis positing the synergistic effects of the PSYA was partially supported.

4.2.4. Hypothesis 3: Test of Balanced Effects

The additional variable that was calculated to reflect the balance (lack of discrepancy) between the four dimensions constituted the fourth block (with the first three blocks remaining the same) in the regression analysis (Table 2). Results indicated this balance variable to be nonsignificant ($\beta = .004$, $p > .05$) and to add virtually no additional explained variance ($R^2_{\text{change}} = 1.20\%$, $p > .05$). Thus, the third hypothesis was not supported, leading to the conclusion that the dimensions do not need to be numerically consistent to predict adult playfulness.

4.2.5. Sex and the PSYA

More than the other scales, significant differences were found for the PSYA ($R^2 = 13.70\%$, $p < .01$), with males viewing themselves as more playful than females ($\beta = .182$, $p < .01$). This was only somewhat consistent with the results of the original research (Barnett, 2007) which detected gender differences for individual descriptor ratings, although not for the scale as a whole. The Comedic factor, which emerged as the strongest predictor, appeared to be more characteristic of males. The descriptors that comprise this dimension – clowning, joking, teasing, seeming funny – also appear somewhat biased toward males, substantiated by research showing such gender differences in the types of humor and jokes that are commonly generated and
preferred (cf. Martin, 2014). Additionally, in the original research, there was also a difference between male and female university students in the ability of the PSYA to detect differences between high and low playful individuals (explained variance was 69.3% for males vs. 76.4% for females). Thus, it remains an open question about the source of sex differences that appear when the PSYA is utilized, although the younger age, university affiliation, and other attributes might play a significant role in yielding divergent findings than when the other playfulness scales are employed.

Table 2. Results of hierarchical regression analyses* for Playfulness Scale for Young Adults

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*standardized regression coefficients are displayed in the table, decimal points are omitted from beta coefficients

\(^1p<.10; ^2p<.05; ^3p<.01; ^4p<.001\)

4.2.6. Summary

For the PSYA, the synergistic model explained significantly more of the total variance (42.30%) than the additive (11.60%) or balanced (1.20%) ones, and these divergences were greater than what was observed with the other scales. The findings examining the PSYA informed a definition of adult playfulness as one in which indi-
individuals are predominantly comedic (delineated as clowning, joking or teasing, funny, humorous), and are also uninhibited (spontaneous, impulsive, unpredictable, adventurous). The comedic element was able to be singularly predictive, although its explanatory power was enhanced appreciably by pairing with uninhibitedness. Playful individuals may also be gregarious or dynamic (active, energetic), although these latter two qualities were not crucial, either singly or in combination. These findings collectively revealed that a very playful individual is one who is highly Comedic, and that once the Comedic criterion has been satisfied to be above average, the individual will also be high in the other dimension of Uninhibited and then perhaps high in Dynamic and/or Gregarious. In contrast, if an individual is not highly Comedic, it does not matter as much where s/he falls on the other dimensions to be considered playful – the Comedic factor appears to be the crucial one. The substance of this dimension does not appear as a salient characteristic in any of the other conceptions of playfulness, and all omit any descriptions explicitly related to the use of humor, joking, teasing, or such presentations. Indeed, Proyer has concluded that sense of humor is a related but separable characteristic to playfulness, based on a number of studies conscientiously exploring its complexion (Proyer, 2012a, 2014a; Proyer & Ruch, 2011; Proyer, Wellenzohn & Ruch, 2014).

The characteristics triggered by the Uninhibited descriptors can also be detected in the other playfulness scales, although perhaps not as prominently. The “impulsive” and “spontaneous” PSYA descriptors appear in the ATPS, and the “unpredictable” descriptor seems closely related as well. Semantic-differential pairings comprising the APS also include these same characteristics along with the PSYA’s “adventurous” and “free-spirited” within their Spontaneous factor (Glynn & Webster, 1992).

Comparisons with OLIW items show some overlap, although the linkages are less distinct. The Lighthearted facet contains the two items “planning ahead” and “wait and see attitude”, both of which are noted to have inverted scoring. Upon first glance, they both appear to reflect the “spontaneous”, “impulsive”, and “unpredictable” Uninhibited descriptors. The final PSYA Uninhibited descriptor of “adventurous” also might be interpreted as implying that playful people are less deterred by risk than their less playful counterparts, apparently related to the “... not thinking about consequences” (OLIW Lighthearted) and “... doing things without worrying about consequences” (ATPS Uninhibitedness) items within the other scales. Since measures of internal consistency were high to satisfactory in the original studies that investigated the psychometric properties of all three playfulness instruments, at present we are left to ponder and explore the possibility that there might be different construals for these terms.

In contrast with the originating research with a comparable sample, two of the dimensions did not emerge as essential in predicting adult playfulness. A closer inspection of the characteristics that identify individuals high in Gregariousness, reveals that it is indicative of both an upbeat (cheerful, happy) disposition and of a social preference (outgoing, sociable, friendly). A positive mood was identified as an essential element in Proyer’s (Proyer, 2012a, 2014a; Proyer & Jehle, 2013) early conceptions of playfulness but not in the most recent rendering (Proyer, 2017), and is not an explicit part of the other frameworks. A preference for social interactions has consistently been viewed as a unique playfulness type (“Other-directed” in Proyer, 2017), or as a singular dimension (“Other-directed” in Proyer & Jehle, 2013), but it has been absent in the other models (Glynn & Webster, 1992; Shen et al., 2014a, b). A more controversial result surrounds the Dynamic factor, reflec-
tive of a physical, energetic and active feature hypothesized to depict playful pursuits. Glynn and Webster (1992) prominently included activity level in their model, shown in descriptive pairings of more and less playful people as “bouncy vs. staid”, “animated vs. passive”, “excited vs. serene”, “expressive vs. self-controlled” and “free-spirited vs. disciplined”. Proyer’s earlier research (Proyer & Jehle, 2013) identified such an Expressive quality, although this was omitted altogether in most recent efforts (Proyer, 2017) and in Shen et al.’s research (2014a, b). It thus can be proposed that activity level is not a defining characteristic of adult playfulness, even in those of younger age.

4.3. Adult Playfulness Trait Scale

4.3.1. Preliminary Analyses

Sample means for data in the present study (Table 1) were below those found in the original research (Shen et al., 2014a, b) for each of the dimensions of Fun Belief ($M = 5.98$ vs. $6.15$), Initiative ($M = 4.11$ vs. $4.96$), Reactivity ($M = 5.02$ vs. $5.63$), Uninhibitedness ($M = 3.32$ vs. $3.85$), and Spontaneity ($M = 3.87$ vs. $4.48$). The data were examined to determine that assumptions of normality were met, as the APTS developers detected a departure from the normal distribution in their data (Shen et al., 2014a). Visual inspection and statistical testing for normality were applied, and none indicated any deviation from a normal distribution in the present data (Shapiro-Wilk = .73, $Z_{skewness} = -.68$, $Z_{kurtosis} = .35$, all $p > .10$).

The principal component analysis with promax rotation generally yielded the same five-factor results (Shen et al., 2014a, b). All stringent criteria were met and the same first-order factors of Fun Belief, Initiative, Reactivity, Uninhibitedness, and Spontaneity were obtained. The one exception was that the item “I often act upon my impulses” loaded equally high on both the Spontaneity and Uninhibitedness factors. Internal consistency coefficients were calculated using this item for both factors, and results indicated it was a better fit in the Uninhibitedness dimension (rather than in the Spontaneity dimension as originally found). The reduction in the alpha coefficient was more sizeable when this item was deleted from the Uninhibitedness as opposed to the Spontaneity factor, thus suggesting it was a better match in the former than in the latter dimension. The high correlation ($r = .74$) reported by Shen et al. (2014a) between these two dimensions, and in the present study with the one adjustment ($r = .71$), indicates that there is more overlap between the Uninhibited and Spontaneity dimensions than is psychometrically desirable.

Although a five-factor solution was found to be a good fit, the APTS authors utilized confirmatory factor analysis procedures to determine whether a higher-order model could improve the goodness-of-fit indicators. They found evidence for the adoption of a third-order model, with the three dimensions of Fun Belief, Initiative, and Reactivity relegated to comprise a more general conceptual dimension the authors labeled “Fun-seeking Motivation” (Shen et al., 2014b). The data in the present study were also tested to determine whether the 5-factor solution or 3-factor model was the best fit, and support for the first-order model (five distinct factors) was obtained. The 5-factor model explained a significant ($F(5, 640) = 40.32; p < .01$) amount of explained variance in the playfulness self-ratings ($R^2_{change} = 20.30\%$, $p < .01$). In addition, inspection of the correlation matrix for both solutions revealed that the three subfactors were not more highly correlated among themselves than they were with the other factors thereby suggesting they were not better explained as subdimensions of a more superordinate general one. Thus, in the subsequent regression analyses, the
APTS was considered to possess five first-order dimensions and treated as such. Alpha coefficients for the data in the present study for the Fun Belief, Initiative, Reactivity, Uninhibitedness, and Spontaneity factors ($\alpha = .63, .76, .84, .68, .77$, respectively), with the one item reassignment, were comparable or better than those obtained in the original Shen et al. study ($\alpha = .58, .63, .72, .67, .81$, respectively). The lowest reliability coefficient obtained in both studies was for the Fun Belief factor, likely because it was comprised of only two items.

### 4.3.2. Hypothesis 1: Test of Additive Effects

After the control variables were input in the first block of the regression analysis, the five APTS dimensions were entered to comprise the second block. Results of the regression analysis (Table 3) revealed that only the Initiative ($\beta = .118, p < .01$) dimension was statistically significant, and that Uninhibitedness ($\beta = .074, p < .06$), Spontaneity ($\beta = .062, p < .07$) and Fun Belief ($\beta = .079, p < .06$) approached conventional levels of significance. The additive model was statistically significant ($F(6, 640) = 26.73; p < .01$) with the first block containing sex included.

### 4.3.3. Hypothesis 2: Test of Synergistic Effects

In the next regression analysis, all possible interaction effects among the five dimensions constituted the third block (Table 3). The overall model was highly significant ($F(21, 625) = 25.91; p < .001$) and the addition of this block added significantly to the total explained variance ($R^2_{\text{change}} = 41.90\%, p < .001$). Inspection of the individual interactions indicated that all that were statistically significant contained the Initiative dimension: Initiative x Uninhibitedness ($\beta = .189, p < .01$), Initiative x Fun Belief ($\beta = .202, p < .01$), Initiative x Spontaneity ($\beta = .196, p < .01$), Initiative x Fun Belief x Uninhibitedness ($\beta = .188, p < .01$), and Initiative x Fun Belief x Spontaneity ($\beta = .156, p < .05$). It was only when Initiative was high did high scores in Fun Belief ($t = 3.77, p < .01$), Uninhibitedness ($t = 4.01, p < .01$) or Spontaneity ($t = 3.90, p < .01$) need to be high to significantly predict playfulness. These findings provide support for the synergistic effects of the APTS in the prediction of playfulness.

#### 4.3.4. Hypothesis 3: Test of Balanced Effects

The fourth block in the regression was comprised solely of the balance (discrepancy) variable. The findings (Table 3) showed that while the model as a whole remained significant ($F(22, 624) = 48.47; p < .001$), the contribution of the balance effect was negligible, with a nonsignificant beta ($\beta = .003, p > .05$) and negligible increase in explained variance ($R^2_{\text{change}} = .30\%, p > .05$). It thus appears from these findings that there is no support for the presence of a balance effect among the dimensions comprising the APTS.

#### 4.3.5. Sex and the APTS

Sex was found to be statistically significant and to contribute 7.60% ($p < .05$) to the variance in predicting playfulness. This represents a contribution, in that no statistical testing was conducted in the original studies (Shen et al, 2014a, b) to investigate a sex effect, nor was it specified as either a direct or indirect effect in any of the analyses. The presumption that the original authors considered the sex of the participant to present a trivial effect can be made, in that it is not mentioned in any literature reviewed, discussion of the results, or suggestions for future research (although other demographic variables are). It is even more surprising that sex was not statistically handled in that participants were disproportionately female (50% to 14%) in the original study (Shen et al., 2014a).
Table 3. Results of hierarchical regression analyses* for Adult Playfulness Trait Scale

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<th>Step 2</th>
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<td>21,625</td>
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</tbody>
</table>

*standardized regression coefficients are displayed in the table, decimal points are omitted from beta coefficients

1 $p<.10$; 2 $p<.05$; 3 $p<.01$; 4 $p<.001$
4.3.6. Summary

Of the playfulness scales that were examined, the ATPS dimensions collectively explained more of the variance (62.50%). In addition, more support was found for an additive model than with the other scales, although the synergistic explanation emerged as far more compelling. The results attributed predictive power to four of the five dimensions (not Reactivity), although not in the configuration discerned by the authors. Shen et al’s (2014a) finding that a heightened Fun-loving motive that characterizes playful individuals is an additive composite of a Fun Belief, Initiative to fashion fun activities, and Reactivity to others’ such efforts was not supported. The results scrutinizing the ATPS showed that the Initiative factor is the sole crucial one – it must be present to predict playfulness, and then combined with Fun Belief or Uninhibitedness or Spontaneity, with the latter dimensions obliged to be high as well. This provided compelling evidence that individuals believed being the originator of a playful episode to be much more defining than reacting to a situation created by someone else (“Reactivity”). Hence, assuming a more passive role in social interactions, in which having fun was an objective, was not viewed by the majority of respondents as necessarily circumscribing a playful person. A second component of Shen et al’s Fun-seeking Motivation was Fun Belief, defined by the authors as prioritizing play in one’s life. The effect of Fun Belief was almost significant as an additive effect, and it may be that respondents imagined other affective goals besides “fun” (e.g., excitement, pleasure, enjoyment, amusement, joy) to connote playfulness.

Once Initiative was high, one or a combination of Uninhibitedness or Spontaneity (or Fun Belief) emerged as a second defining playfulness component. Uninhibitedness in the APTS was defined as “an ability to subdue potentially constraining situational factors and create a free, uninhibited mental state” (Shen et al., 2014a, p. 68). The more impulsive or spontaneous tendencies to act without thought or design emerged as a typical but not requisite quality of playful individuals. At first glance this appears to run counter to the inclusion of this factor as essential in all of the other models (as in Barnett’s “spontaneous” and “impulsive” within an Uninhibited factor, Proyer’s Lighthearted improvising, and Glynn & Webster’s Spontaneity factor characterized as “voluntary or need independent”). This discrepancy may be reconciled by observing that the ATPS Spontaneity items uniquely emphasize acting on impulses. Shen et al’s (2014a) assertion that Spontaneity reflects “a mental propensity to respond promptly without deep thought or premeditation” (p. 68), was operationalized with items assessing more impulsive, hasty, spur-of-the-moment actions. In the current study, the Spontaneity factor, construed in this way, did not contribute to the explanation of adult playfulness and suggested rather that spontaneity does not play either an independent or primary role. Inspection of the ATPS items shows it narrowly reflects a “non-conformity” interpretation, wherein playful individuals are those who do not concern themselves with the evaluations of scrutiny of others or with social mores or norms prescribing how they should behave in certain situations. None of the items appear to appraise a person’s ability to subjugate or vanquish “constraining situational factors” nor do they reflect one’s capacity to “create a free, uninhibited mental state”, at least beyond not suffering distractions due to social expectations, as stated by the authors (Shen et al., 2014a). We may tentatively concluded from these findings that playfulness may involve some duration of thought or it may not, and that further research is warranted to explore the importance of spontaneity and impulsivity further.
It is also important to consider that the divergence in findings might be due, in part or whole, to differences between the original and present sample characteristics, recruitment procedures, and/or survey administration strategy. Participants in the original studies were significantly older, with an average age of 41 years (no range was provided). Sample members were friends on Shen’s private contact list, or individuals who responded to a recruitment ad on the university faculty distribution wire. Hence, they were highly educated and over half had a bachelor’s degree, while none had yet secured one in the present sample. Individuals completed all of the measures online in the originating research, while they were seated in a group and in the presence of an administrator in the current research. In addition, Shen et al reported high rates of missing data in all of their studies (35-38% in Shen et al 2014a, 11.6 – 35% in study 1 and 20-25% in study 2 of Shen et al 2014b), while only those with complete data comprised the present sample. While there is no evidence to support a claim that any of these differences generated the discrepant findings, it seems reasonable to surmise that these disparities might be at least partly responsible.

4.4. OLIW Model

4.4.1. Preliminary Analyses

Initial testing of the OLIW measure of adult playfulness (Proyer, 2017) was conducted with university students (pending, previous or current) – a population that comprised a relatively large percentage of the original “Construction” (≤ 86%), “Replication” (≤ 60%), and “Test-Retest” (≤ 83%) samples. While slightly higher, means calculated on the present data resulted in equivalent ranking between the Other-directed (M = 5.38 vs. 5.29), Lighthearted (M = 4.64 vs. 4.52), Intellectual (M = 4.77 vs. 4.72), and Whimsical (M = 4.81 vs. 4.71) facets (Table 1). Examination of the P-P and Q-Q graphs, as well as statistical testing (Shapiro-Wilk = .92, Zskewness = .49, Zkurtosis = .32, all p > .05), revealed no significant deviation from a normal distribution.

Analysis of the OLIW sought to determine whether the factor structure could be replicated with the present sample. Following procedures utilized by Proyer (2017), the items were subjected to principal component analysis, requiring that retention of the item necessitated that its loading exceeded .40 on the focal factor, and less than .30 on the other factors. The four-factor solution was generally confirmed, and internal consistency (alpha coefficient) was calculated for the items that fit the criteria for each facet (Table 1). Inspection of the corrected item-total correlations revealed that some adjustments to the items comprising each of the facets would be beneficial. For Lighthearted, deletion of the “chaotic approach to work” item resulted in a higher alpha coefficient (from α = .63 to α = .77), as did “distracts from work” in the Intellectual facet (from α = .66 to α = .72). For the Whimsical facet, after deletion of the two items of “finding amusement in grotesque and strange situations” and having the reputation of liking odd things or activities” the alpha coefficient was improved (from α = .40 to α = .52), although it remained lower than the other facets and outside of accepted standards (DeVellis, 2012). No modifications were necessary on items comprising the Other-directed facet (α = .71). Proyer (2017) reported a median of .75 for internal consistency reliability across samples, while internal consistency coefficients were lower with the present sample, and those for the LIW facets would be considered less than acceptable (DeVellis, 2012). Repeating the factor analysis, the data that included these adjustments accounted for a higher amount of variance (41.03%) than was obtained in the original study (36.83%). Despite these preliminary results, the remaining items were all re-
tained and loaded on their respective original facets to further explore any interrelationships or independence between them.

4.4.2. Hypothesis 1: Test of Additive Effects

After controlling for the effect of sex, the regression equation for the second block containing each of the facets was statistically significant \( F(4, 641) = 50.57, p < .01 \), accounting for 17.40\% of the total variance (Table 4). Inspection of each of the OLIW facets revealed a significant beta coefficient for Intellectual \( \beta = .114, p < .01 \), and a significant result for Lighthearted \( \beta = .062, p < .05 \). Results for the other two facets, Other-directed \( \beta = .008, p > .05 \) and Whimsical \( \beta = .001, p > .05 \), were not statistically significant. Hence, there was not compelling support for the additive effects of the OLIW facets.

4.4.3. Hypothesis 2: Test of Synergistic Effects

The synergistic effect between the OLIW elements was examined in the third regression block containing the interactions (Table 4). This step represented a substantial increase to explained variance \( R^2_{\text{change}} = 31.10\% \), \( p < .01 \). The interactions that were statistically significant were Intellectual x Lighthearted \( \beta = .198, p < .001 \), and Intellectual x Lighthearted x Other-directed \( \beta = .192, p < .01 \). The Intellectual facet was primary, in that it was only when high scores were detected was playfulness accurately predicted. The slopes were found to be significantly different for high scores on the Intellectual facet (Intellectual x Lighthearted: \( t = 3.84, p < .01 \), Intellectual x Lighthearted x Other-directed: \( t = 2.41, p < .05 \)) but not when they were low (one standard deviation below the mean). These findings would suggest partial support for the second hypothesis of a synergistic effect of the facets on playfulness.

4.4.4. Hypothesis 3: Test of Balanced Effects

The addition of the third block containing discrepancy data did not add appreciably to the regression equation \( F(1, 631) = 2.49, p > .05 \); Table 4). The primacy of one factor (Lighthearted) and the apparent consequence of another (Whimsical) were further evinced by the lack of any significant contribution to explained variance \( R^2_{\text{change}} = 2.10\%, p > .05 \). Based on these findings, it was concluded that the third hypothesis - the presence of a balanced relationship among the facets - was not supported.

4.4.5. Sex and the OLIW

Sex differences contributed less to the prediction of adult playfulness with the OLIW than with any of the other scales although it did approach conventional significance levels \( R^2 = 5.80\%, p < .07 \). The sign of the beta coefficient indicated – consistent with the other playfulness scales – that males scored higher than females. In the originating studies, Proyer (2017) reported correlations to be zero between sex and OLIW facets for both the “Construction” and “Replication” samples, and in the “Test-retest” sample sex was statistically controlled.

4.4.6. Summary

Proyer’s (2017) most recent model refers to adult playfulness as comprised of four types, with each of the OLIW facets predominating a distinguishing form. However, the present data lead to the tentative conclusion that the OLIW facets are suitable predictors of playfulness if considered in combination, and that only two should be retained as contributors. While there was some evidence for the independent contribution of the Intellectual, and to a lesser extent Lighthearted, facet shown in the test of the additive model, more ample support was found for the synergistic explanation.
These results signified that there was a hierarchy to the prediction of playfulness, rather than equivalence, ordered as Intellectual, then Lighthearted, and possibly Other-directed. In other words, playfulness is most commonly seen among individuals who enjoy gamboling with thoughts and ideas (“Intellectual”), and have a more carefree approach to life (“Lighthearted”). A preference for social interaction is not a defining characteristic, but may be present if the other two pre-conditions are met.

Table 4. Results of hierarchical regression analyses* for OLIW Scale

<table>
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<tr>
<th></th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
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* standardized regression coefficients are displayed in the table; decimal points are omitted from beta coefficients
\(^1p<.10; ^2p<.05; ^3p<.01; ^4p<.001\)

A closer examination of the items within the two significant facets is warranted. Four of the items utilize the word “playful” and employ the term as different parts of speech (“playful approach for new ideas”, “playfulness distracts from work”). Perhaps this explains the emergence of this factor as the most powerful, as might be expected in any case where more than half of the predicting items reproduce the criterion. This tautolo-
gy does little to provide us with much insight into the “playfulness” construct, nor does it provide a consistent interpretable meaning for the respondent. We may speculate that the wording of these items (and also the reverse coded “preferring fixed schemes for problem solving”) evokes images closely related to creativity, if sample members construe them similarly as implying innovation, originality, imaginative-ness, inventiveness, or the like. Thus, a more descriptive moniker might be a return to Proyer and Jehle’s (2013) “Intellectuali-ty-Creativity” label to better encapsulate the meaning and interpretation of the facet.

The comparatively low amount of explained variance attributable to the facets might also be due to a lack of coherent focus among the items comprising the Lighthearted facet, or perhaps the ambiguity of others, supported by the moderate alpha coefficient for the facet. For example, the “liking to improvise” item within the Lighthearted facet might bear a resemblance to the “playful approach” items in the Intellectual facet, and the inverted wording of “not planning ahead” might be construed by some as connoting spontaneous or impulsive. The “wait and see” attitude could seem as conflicting with other items, and readers might be confused about assessing their preference for a “chaotic approach to work.” A small focus group (n = 8) of participants post data collection revealed some confusion to have been present with the wording of these items.

The Other-directed facet did not emerge as a unique predictor of playfulness, appearing tangentially only under conditions when Intellectual and Lighthearted were both high. With five of the seven items comprising this facet using the word “playful” or “play”, it might be expected that it would have figured more prominently among significant results. Again it might be conjectured that issues with ambiguity in meaning, or confusion in phraseology, served to obscure clear findings emerging from this factor. It might also be the case that respondents were able to understand and interpret the items, and the necessity of including a social component in conceptualizations of playfulness is minimal. The notion that playfulness must be a shared endeavor does not prominently appear in any of the other models, although it does have a peripheral presence within the nonsignificant PSYA Gregarious and ATPS Reactivity factors. The Whimsical facet was absent in all of the analyses, calling into question its contribution, meaning, and/or measurement.

A divergent finding was the difference between male and female students in the prediction of playfulness from the OLIW model. Specification of a sex effect in all of the tests approached conventional significance levels (all \( p < .10 \)), and the sign of the beta coefficient indicated that playfulness predictions were higher for men than for women. Proyer (2017) reported “near zero” correlations with sex for the OLIW facets in his Construction and Replications samples, and further controlled for a sex effect in subsequent reliability and validity testing. We may thus presume that these results demonstrating the psychometric properties of the scale and facets occurred regardless of any male-female differences, so we must remain hesitant at this early stage to conclude there are gender variations. The reasons for the discrepant findings obtained in the present study from those in the original research may be due to differences in sample characteristics, recruitment procedures, methods of data collection, or other distinctions. In Proyer’s (2017) original research, participants were German-speaking residents, representing a large age span from 18 to 79 years (\( Mn \, \text{age} = 40 \) years in Study 1, 44 years in studies 2 and 3), and in each of the three samples women dramatically outnumbered men (two times as many in the Construction sample, three times as many in the Replication sample, five times
as many in the Test-retest sample). Participants in the original research were unpaid volunteers who responded to flyers, website or listserv ads, and completed all of the materials online. The present sample consisted only of college students (Mn age = 23 years) who were offered extra credit for their participation, and completed study materials in large supervised groups. We may speculate thus that respondents might have interpreted wording differently for one or a multitude of reasons when comparing the present study to the original research, and it remains an open question as to the robustness of the OLIW playfulness assessment to sample or methodological attributes.

5. General Discussion

The purpose of this study was to contribute to discussions of adult playfulness – what it is, what it encompasses, and how it can be accurately and satisfactorily measured. Four extant models and measures of adult playfulness that have either been consistently utilized in research studies (Barnett, 2007; Glynn & Webster, 1992) or recently tendered as better alternatives (Proyer, 2017; Shen et al., 2014a) were examined. These models advocate for a different number of constituent or independent dimensions of playfulness, some of which show consistency across scales and others of which are exclusive to the scale. While some have been subjected to more extensive reliability and validity testing than others, none has undergone a careful scrutiny of its underlying dimensions. In addition, the measures have not been directly contrasted other than by the commentary of discerning readers. This study attempted to provide a more meticulous effort to examine each of the four adult playfulness measures by investigating the underlying structure of its component dimensions. In addition to illuminating different methods of assessing the construct, their underlying structure and relationship among the elements adds to knowledge about what adult playfulness is, how it is defined by young adults, and how it may be more characteristically and precisely conceptualized.

5.1. What Did We Learn About Extant Measures of Adult Playfulness?

The Adult Playfulness Scale (Glynn & Webster, 1992), Playfulness Scale for Young Adults (Barnett, 2007), Adult Playfulness Trait Scale (Shen et al., 2014a), and the OLIW Scale (Proyer, 2017) were the focus of this investigation. Each of these scales was scrutinized by testing alternative hypotheses about how the dimensions (inter)acted to capture adult playfulness, and thus, how the conceptual framework about the nature of adult playfulness was conceived by the originators. The first hypothesis proposed that the scale’s dimensions were additive in envisaging adult playfulness. Support for this hypothesis would indicate that each of the constituent dimensions possesses different and unique explanatory powers in predicting adult playfulness. Support for this hypothesis would indicate that each of the constituent dimensions possesses different and unique explanatory powers in predicting adult playfulness. The findings indicated that none of the scales exhibited preferential additive effects and it was concluded that not one of the playfulness dimensions could stand alone to predict how playful young adults were. An additional hypothesis was tested postulating that one dimension could predict playfulness above and beyond levels of another dimension. This “balance” hypothesis was not supported for any of the scales, indicating that only a negligible contribution to explained variance was contributed by these interrelationships among dimensions, and all combinations denoting balance were nonsignificant.

An additional hypothesis stated that a scale’s dimensions are only accurate in predicting playfulness in synergy with one another. This would be evidenced if the highest-order interaction among the dimensions was statistically significant. Support
for the synergistic model was found for each scale and the findings were revealing in demonstrating how the dimensions coalesced to predict playfulness. Results for three of the four scales (the Adult Playfulness Scale was eliminated) disclosed that there was an ordering, or sequence, among the dimensions, in contributing to the prediction of adult playfulness. Further inspection of the Adult Playfulness Scale was halted.

All three remaining scales were found to be effectual, with their constituent dimensions able to predict more than half of the variance in students’ perceptions of their playfulness. A comparison of the scales revealed that the Adult Playfulness Trait Scale provided better prediction (accounting for 62% of the variance) than the Playfulness Scale for Young Adults (55%) or the OLIW measure (51%). It was also found that with some slight modifications to individual items and factors, the explanatory power of each of the instruments could be improved. Consideration of sex differences contributed to the prediction of playfulness for all of the scales, much more so for the Playfulness Scale for Young Adults than for the other two. When sex was taken into account, the distinctions between the three scales diminished, with the Adult Playfulness Trait Scale explaining 70% of the total variance, the Playfulness Scale for Young Adults accounting for 69%, and the OLIW at 56%.

5.2. What Did We Learn About What Adult Playfulness Is?

Perhaps one of the most important outcomes from this study is recognition of the compelling need to ponder, discuss, hypothesize, and investigate at greater length, the construct of playfulness in adults. There is unanimity among all of the authors in viewing playfulness beyond childhood as a relatively stable tendency to perceive or act in a certain way, labeling it variously as a (pre)disposition (Barnett, 2007; Shen et al. 2014a), propensity, or personality trait (Proyer, 2017; Shen et al., 2014a). Thus, while all of these scholars concur that people possess a playful characteristic, there is an absence of evidence to observe its (internal or external) appearance across “similar” situations or environments. The extent to which playfulness in adults might possess “trait-like” properties, and the extent to which it is related to, emanates from, or uniquely contributes to an individual’s personality are central concerns that have as yet been relatively unexplored. Partitioning over 4000 adults aged 18-92 into 11 age segments, Proyer (2014c) demonstrated that playfulness remained stable, and this preliminary research provides an optimistic challenge. It is imperative that these most fundamental questions are investigated before we can operate on a conceptual level about a precise meaning of, or explanation for, adult playfulness. While research has detected significant correlations between playfulness and established personality traits (Barnett, 2011-2012; Proyer, 2012c, 2017; Proyer & Jehle, 2013), extensive empirical efforts must be undertaken to chronicle and aggregate playful thoughts, behaviors, or expressions across many and varied types of situations, contexts, and durations (Caspi, Roberts, & Shiner, 2005).

All of the authors under scrutiny assert that adult playfulness is cognitively-based, maintaining that its breadth and depth lies within the individual’s cognitive structures. Whether regarding playfulness as a “mental propensity” (Shen et al., 2014a, p. 68), or as the attempt to “frame or reframe” situations (Barnett, 2007, p. 955; Proyer, 2015, p. 93 as cited in Proyer, 2017), there is the consistent approach to situate playfulness in individuals’ perceptions and (re-) interpretations of their immediate environment. While all of the playfulness authors emphasize a cognitively based explanation for playfulness, only one provides any such assessment in constituent dimensions or
scale items. Support for Proyer’s (2017) Intellectual facet was strong in the present study, and findings indicating this was the most significant predictor, thus providing evidence that its contribution was unique and independent. The description of the Intellectual facet of “liking to play with ideas and thoughts; liking to think about and solving problems” (Proyer, 2017, p. 114) and specific items emphasizing a playful approach to learning and to new ideas, as well as dislike for fixed schemes for solving problems and for tasks that require trials to find a solution, instantiated the claim that playfulness has a strong cognitive basis. The OLIW model is the only one in which the cognitive perspective can be substantiated among component dimensions or scale items. The present findings further demonstrate that the difference between more serious creative meanderings and those that may be considered “playful” lies in the combination of this facet with high scores on the Lighthearted one, the latter reflective of “seeing life as a game; liking to improvise; not thinking about the consequences of one’s own behavior” (Proyer, 2017, p. 114). It may be argued that some of the items assessing Lightheartedness illustrate a major demarcation between playful and more serious creative expression – whether the focus is on the outcome or on the process. This distinction was also noted by Shen et al (2014a) with the inclusion of items (in the significant “Uninhibitedness” dimension) assessing the degree to which respondents reported not worrying about consequences, or about looking silly or what others may think. It thus appears that a crucial component of adult playfulness is the perceived freedom to act (and think) as one wishes, without concern for societal norms, reprisals, or sanctions.

An ancillary argument that precedence be given to a cognitive basis for playfulness stems from the results of the present study illuminating what playfulness does not appear to be, at least in populations of university students. Proyer’s Other-directed facet, Shen et al.’s (2014a) Reactivity subdimension (within Fun-seeking Motivation), and Barnett’s (2007) descriptors “friendly”, “sociable”, and “outgoing” (within Gregarious) suggest that the presence of co-players is not critical to achieve an understanding or prediction of playfulness in young adults. In addition, the unconfirmed support for a physically active, energetic component to playfulness found in comparable samples (“Dynamic” dimension; Barnett, 2007, 2011, 2011-2012) renders its inclusion suspect awaiting further testing. The findings disavowing a significant physical or social component as requisite to predict playfulness don’t justify the cognitive approach as much as render at least tentative jettison of these domains as essential. Clearly, the suspicion and uncertainties generated by these disparate findings dictates the urgent need for additional comprehensive and meticulous empirical testing.

Virtually all playfulness scholars assert that the motivation underlying playful thoughts and behaviors is the desire to attain a certain positive affective state, with Barnett’s (2007) assertion that it is to “provide oneself (and possibly others) with amusement, humor, and/or entertainment (p. 955), and Proyer’s (2017) contention that the goal is to experience everyday situations as entertaining, and/or intellectually stimulating and/or personally interesting” (Proyer, 2015, p. 93-94 as cited in Proyer, 2017). Shen et al. (2014a) acknowledge “people’s tendency to be intrinsically motivated” (p. 68) in their definition although they focus exclusively on “fun” as the motivating force and desired outcome of playful interactions. The rationale provided for their narrower emphasis is that “fun is most characteristic of the active and intense affective experience in play”, and further proclaim that Fun-seeking is “a specific form of intrinsic motivation” that provides “a more
precise term to capture the distinctive motive that defines playfulness” (Shen et al., 2014a, p. 64). The scale derived from Shen et al.’s (2014a) exposition is the only one that contains items assessing the extent to which any type of positive affect is inspiring or encouraging playfulness, or is experienced as an accompaniment or aftereffect.

While there is consensus among scholars that playfulness has a central core of positive affect, there is not much agreement as to what that is. Various labels abound for what is experienced, desired, and enhanced through playful interactions, including enjoyment, excitement, pleasure, amusement, fun, joy, happiness, inner satisfaction, and a myriad of others, in contrast (or opposite to) serious, dull, boring, uninteresting, etc. There have been few investigations to distinguish these types of positive affect, or to suggest whether one or another might be more prevalent with certain characteristics of individuals (particularly more playful ones). Those who study “affect” make some distinctions with “emotions”, with one being that the former is more “free-floating”, vague, and nebulous (cf. Tellegen, Watson, & Clark, 1999). Emotions, in contrast, have been classified into discrete categories, one of which is “joy”, which has been postulated to be the “urge” that impels us to play (Fredrickson, 2001). Thus, the notion that “fun” is a specific type of positive affect, or of intrinsic motivation, defies the extant literature in these subfields of scholarship. This doesn’t take us any closer to discussing positive affect with more clarity and discernment in our discussions about playfulness, but it does strongly point to the need to distinguish between emotions and affect in our rhetoric and to restrain from selecting from the vast array from which to build theory.

Closely related to the specification of positive affect is discussion surrounding the role of humor in the thoughts, behaviors, and antics of playful individuals. A comic dimension comprised of the attributes of “funny” and “humorous” and the behaviors “joking” and “clowning around” was the strongest in Barnett’s (2007) model for divining a playful person, yet there was no content even remotely similar in the other explications. In earlier conceptualizations of playfulness, Proyer and Jehle (2013) posited the importance of a “Humorousness” dimension, describing it as “having a good sense of humor, doing everything that one does with humor; being seen as humorous by others; entertaining others with jokes; liking nonsense and absurdity” (p. 813). While the association between humor and playfulness has been erroneously presumed sporadically in the literature (cf. Peterson & Seligman, 2004), Proyer (2012a, 2014a; Proyer & Jehle, 2013; Proyer & Ruch, 2011) cautioned they should be viewed as parallel constructs, and argued they are distinguishable in their defining elements, characteristics, correlates, and the behaviors that emanate. It appears that the clowning behaviors are the ones that are more typical of playfulness, and might serve to provide at least one way to differentiate it from one’s sense of humor.

5.3. Collaborating About Playfulness

A review of conceptual efforts to enhance our understanding of adult playfulness leads to the conclusion that there is both consensus and inconsistency among scholars in defining and explicating the components, or predictors, of playfulness in young adults. The data in the present research substantiate this observation and further demonstrate that three of the four conceptual models partially elucidate and enlighten us about how playful people think, appear, and/or behave, although none stood out well above the others. We advance the proposal that an amalgamation of those factors that were highly predictive of playfulness in each model might provide the most sagacious strategy. Following from
the findings of the study, we propose that playfulness in young adults (university students) be identified as the fusion of the following elements:

- generating enjoyable/fun/creative thoughts, ideas, or pursuits,
- without significant concern about the appraisal of others (e.g., social expectations) or the consequences of one’s behaviors (nonserious),
- and often shown as good-natured humor (joking, teasing, clowning around).

We offer this as a revised definition of (young adult) playfulness, and encourage scholars energized by this topic to explore and investigate this proposition.

6. Limitations

While the results of the study contribute to the sphere of research devoted to adult play and playfulness, they should be considered in light of several limitations. It is important to note that the criterion measure of playfulness that was used to evaluate each of the scales was designed for this study and had not been tested for reliability and validity. All of the items were extracted from existing criterion measures and a few were rephrased so as not to provide a bias toward one dimension or another. The amalgamation, however, was not retested to assess its reliability or validity, but rather it was presumed because psychometric properties had been previously established, and modifications were deemed to be negligible. However, the absence of such testing meant a reliance on this assumption, rather than a strict conformity with recommended procedures to repeat reliability and validity testing (cf. Pedhazur, 1997).

The study relied solely on self-report questionnaire data, which raises concerns about the presence of bias attributable to this mono-method approach (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). When individuals have been asked to provide self-assessments of their thoughts and behaviors, they have been shown to render a social desirability bias, response tendency, or issues related to misunderstanding or confusion about the questionnaire content (Paulhus & Vazire, 2009). This study was undertaken to explore how individuals perceive playfulness in themselves, in others, and more generally, and with the term itself being included in many of the assessments, questions can be raised about participants’ ability to understand, interpret, and respond to these items. This concern mandates that scholars utilize a “multi-method” assessment of playfulness to minimize the reliance on self-report data and by doing so obtain a more accurate depiction. For example, Proyer and Brauer’s (2018) recent effort to assess individuals’ playfulness by asking unacquainted judges to view their written self-descriptions represents an innovative approach in moving beyond questionnaire data. In addition, the adoption of behavioral data as an alternate indication of playfulness (Proyer, 2012a, 2017; Proyer & Jehle, 2013) illustrates the feasibility of extending survey methods. Additional research on these and other inventive methods is imperative to assess playfulness in adults with a goal that more comprehensive measures can be achieved.

The homogeneity of the sample beseeches the need for replication to people of different ages, lifestyles, circumstances, and cultures. For example, studies have detected differences between student and nonstudent samples when other person variables such as age and SES are held constant (see Peterson, 2001 for a review) and older adults (Sears, 1986) in the similarity and types of responses they provide and the effect size of the variables. Further, research on adult playfulness is just beginning to be con-
ducted in non-Western societies (cf. Barnett, 2017; Pang & Proyer, 2018; Yue, Leung, & Hiranandani, 2016), an especially significant direction in that fundamental belief systems and negative attitudes towards play prevail in many cultures (cf. Bai, 2005; Holmes, 2001). Knowledge about the definition and meaning of playfulness to a diverse array of individuals, and in varying contexts, is critical for moving the study of playfulness beyond description, and allowing wider use of ecologically valid measurement tools.

7. Future Research

Our venture into examining relationships between the dimensions comprising each of the conceptualizations of adult playfulness has evaded the more basic question of what playfulness actually is. At present there is relative agreement that it is an abstract idea, a generic term that people use in their everyday vocabulary, and one that they seem able to apply with relative ease to a certain class of behaviors, attributes, or images. However, some scholars and academics have characterized playfulness as a trait (Bozionelos & Bozionelos, 1999; Proyer, 2017; Shen et al., 2014a; Yager et al., 1997) while others have been reluctant to do so (Barnett, 2007; Glynn & Webster, 1992). Criteria have been put forth to demarcate what constitutes a trait (cf. Caspi et al., 2005), a predominant one emphasizing demonstration of consistency or stability over time. In his effort to evaluate test-retest reliability of the OLIW, Proyer (2017) administered it at several intervals, and provided support for the brief temporal stability of playfulness, at least as assessed by the OLIW. There is a pressing need to position this issue centrally so that we can be precise and consistent in discussing playfulness as a trait, type, (pre)disposition, configuration of thoughts, feelings, behaviors, expressions, emotions, or other configurations of experience.

A second principle to determine whether playfulness has trait-like properties is whether there is relative consistency shown over situations. Clearly playfulness does not occur in a vacuum, as reflected in the tightly controlled circumstances surrounding data collection in most research. We should not be exempt from engaging in the long-standing person-situation debate, and pursue enquiries that address basic questions such as whether playfulness can be found to some degree in every person (primary trait), or whether it is instead seen only in certain circumstances (such as when the individual is stress-free, or in a social setting or when with a particular friend). It is only when we can pose these fundamental issues and position them foremost in our research, can the “true” nature of playfulness be revealed.

7.1. Playfulness and Gender Differences

A robust finding was the presence of sex differences in measures of adult playfulness, and perhaps in the construct itself. This distinction was found to occur with every measure. The detection of male-female differences runs counter to research with the OLIW and supplements APTS studies which failed to explore divergences. The assumption of a cognitively-based perspective in future adult playfulness research, and the proposition that playfulness can be thought of as the combination of the pursuit of enjoyment (in ideas, thoughts, actions) with little concern for the evaluations of others and with the typical use of good-natured humor, does not necessarily predispose one sex over the other to possess the quality to a greater or lesser degree. However, the results of this research raise questions about gender differences in playfulness, and/or its assessment, and vehemently suggest that it be a part of every future research study.
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Abstract

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