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*Published in:*  
International Journal of Psychological Studies

*DOI:*  
[10.5539/ijps.v7n3p25](https://doi.org/10.5539/ijps.v7n3p25)

Published: 01/01/2015

*Document Version:*  
Publisher's PDF, also known as Version of record

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*Recommended citation(APA):*  
Habelrih, E. A., & Hicks, R. E. (2015). Psychological well-being and its relationships with active and passive procrastination. *International Journal of Psychological Studies*, 7(3), 25-34. <https://doi.org/10.5539/ijps.v7n3p25>

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# Psychological Well-Being and Its Relationships with Active and Passive Procrastination

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Received: May 29, 2015 Accepted: June 15, 2015 Online Published: August 12, 2015

doi:10.5539/ijps.v7n3p25

URL: <http://dx.doi.org/10.5539/ijps.v7n3p25>

## Abstract

Procrastination affects many people and impacts overall effectiveness of individuals and organisations. While some studies have examined the correlates of procrastination in terms of impacts on well-being (including depression and anxiety) and on performance, few studies have examined procrastination as a dichotomous construct, with most seeing procrastination as unifactorial. One such study defining procrastination as dichotomous was that of Chu and Choi (2005). The current study examines how psychological well-being is related to the concepts of active procrastination and passive (traditional) procrastination. Active and passive procrastination are related insignificantly to each other (we are not dealing with one dimension); but what would be the relationships among psychological well-being, active procrastination and passive procrastination? The different forms of procrastination may have different relationships to well-being and research is scarce; and further, treatment processes for avoiding the negative effects of procrastination should be tailored to the different forms of procrastination. It was hypothesised that psychological well-being would be related positively to active procrastination and negatively to passive procrastination. To answer this question, 152 university students aged between 18 and 54, mean age of 23.3 ( $SD = 18$ ) completed the Active Procrastination Scale, the Passive Procrastination Scale, and Ryff's Scales of Psychological Well-Being. Standard multiple regression was used, linking psychological well-being, age, gender, active and passive procrastination. The findings show active and passive procrastination are in fact separate constructs and need to be treated differently. Being an active procrastinator can be a sign of healthy well-being.

**Keywords:** active procrastination, passive procrastination, psychological well-being

## 1. Introduction

There is little current empirical research on the relationship between psychological well-being and procrastination. No published research to date has used the dichotomous concepts of active and passive procrastination to study psychological well-being; however, Chu and Choi (2005) claimed that passive procrastinators are more pessimistic and their lack of belief in their own skill set suggests an element of self-doubt. This suggests that passive procrastinators are less likely to have high psychological well-being. Contrastingly, active procrastinators appear to have lower stress levels and depression scores compared to their passive procrastinator counterparts (Chu & Choi, 2005), inferring that they are likely to have high psychological well-being. Due to this gap in research in this field, this current study examined the relationship between well-being and procrastination and used the Ryff's (1989) Psychological Well-being scale, the Choi and Moran (2009) Active Procrastination scale updating the earlier Chu and Choi (2005) approach, and a six-item Passive Procrastination scale. Further details now follow on psychological well-being and on procrastination research that informed our study.

### 1.1 Psychological Well-Being

The question of how wellbeing should be defined remains unresolved (Butkovic, Brovic, & Bratko, 2012; Dodge, Daly, Huyton, & Sanders, 2012). Consequently, there are several broad, and inconsistent definitions being used in current psychological literature. Being a multi-dimensional construct, the definition of psychological well-being, or the elements emphasized, change depending on the context in which it is studied (Dodge et al., 2012). Ryff (1989) stated that there are three interrelated components to psychological well-being: life satisfaction, pleasant affect, and unpleasant affect. Here, life satisfaction refers to a cognitive sense of

satisfaction with life (Ryff, 1989), whereas affect refers to pleasant or unpleasant moods and emotions. Psychological well-being relates to how people subjectively evaluate their lives cognitively and affectively. Thus, for the purposes of the present study, psychological well-being was operationalised as a combination of positive affective states and optimal cognitive and social functioning. This approach is in line with the suggestions of Winefield, Gill, Taylor, and Pilkington (2012).

Diener (1997) inferred that the cognitive component of psychological well-being is an information-based appraisal of one's life satisfaction. The affective part is an evaluation influenced by emotions and feelings, for example, the frequency by which individuals experience pleasant or unpleasant moods in reaction to life circumstances (Diener, 1997). Thus, people may have a degree of subjective well-being despite not consciously being aware of it.

#### 1.1.1 Recent Developments Regarding the Concept of Psychological Well-Being

Until recently, the consensus in much research surrounding psychological well-being as a construct was that it was to be seen as an opposite to negative states. For example, psychological well-being was seen as “not stressed” or “not depressed”, and therefore low scores on depression, anxiety, stress or other negative attributes indicated higher psychological well-being. The recent change in thinking has seen the emergence of a positive emphasis on this more dated approach (Libran, 2006). With attention to positive aspects, psychological well-being indicates, for instance, happiness or life satisfaction rather than the “opposites of depression and anxiety”. Studies on psychological well-being can be seen as part of the more recent positive psychology movement since the early 2000's though attention to positive aspects had been given much earlier than this. For example, Ryff (1989) had indicated that positive aspects of well-being included at least six main variables: sense of autonomy, self-acceptance, purpose in life, positive relations with others, personal growth, and environmental mastery. We therefore used Ryff's (1989) scale of psychological well-being in our study as not only was a total psychological well-being score possible but examination of the contribution of these six positive well-being elements could occur, adding considerably to earlier literature that emphasized “not being depressed anxious or stressed” as psychological well-being. These aspects are further discussed in the method, and after discussing procrastination (next), we discuss the work that is available linking psychological wellbeing (in negative and positive forms) with procrastination.

#### 1.2 Procrastination

Procrastination has been traditionally defined as voluntary, irrational postponement of an intended course of action despite knowledge that this delay will have negative effects (Simpson & Pychyl, 2009). This definition is based on the assumption that we plan and intend to complete certain tasks, but when the time comes to do so, our actions change and we instead pursue immediate gratification (Steel, 2007). One recent review of what we know about traditionally perceived procrastination is that of Abbas and Alghamdi (2015). However, the traditional definition of procrastination may be problematic for two reasons: first, its non-specific nature could be used to describe aspects of a number of psychological disorders including anxiety and depression (Stead, Shanahan, & Neufeld, 2012); second, research on procrastination is ironically delayed and limited with regard to active research on what may be two separate aspects of procrastination (active procrastination and passive or traditional procrastination), and how these apparently opposing aspects of procrastination may relate to psychological well-being, as opposed to studies dealing with, say, depression and anxiety.

##### 1.2.1 Developments Regarding the Concept of Procrastination

Determining a specific current definition of procrastination and how it should be operationalised is a difficult feat due to the recent emergence of variations to the construct (Corkin, Yu, & Lindt, 2011). Procrastination received little empirical attention until the late 1970s (Wilson & Nguyen, 2012); however given its increasing prevalence and recognized complexity as a psychological construct, it is now being more widely researched as a complex process involving affective, cognitive, and behavioural components. Despite the argument that procrastination is most evident in the workplace (Gupta, Hershey, & Gaur, 2012), procrastination also tends to affect university students, whose lives are characterised by the need to manage their time to meet frequent deadlines (Chu & Choi, 2005). It has been estimated that over 70% of students procrastinate, with more than 50% claiming to procrastinate consistently and problematically (Day, Mensink, & O'Sullivan, 2000; Ferrari, O'Callaghan, & Newbegin, 2005; Steel & Ferrari, 2013). Furthermore, Klassen and Chiu (2010) reported that undergraduate students spend roughly three hours per day procrastinating.

While procrastinators have sometimes been depicted as lazy individuals with an inability to self-regulate, non-procrastinators have been associated with high efficiency, productivity, and motivation (Chu & Choi, 2005). However, the notion of procrastination as being a completely “negative” attribute has recently been questioned,

with the identification of at least two different types of procrastination in empirical literature (Corkin et al., 2011).

These classifications suggest that one form of procrastination is characteristic of people who do not intend to procrastinate, but do so due to a lack of time management (Ferrari et al., 2005), and that a second form of procrastination is characteristic of those who manage time effectively yet choose to postpone tasks to focus on more immediate, and perhaps more important tasks (Brownlow & Reasinger, 2000). These different clarifications have been labeled as passive procrastination and active procrastination respectively.

### 1.2.2 Passive Procrastination

Chu and Choi (2005) noted that many of those deemed to be procrastinators claimed to delay a task because time pressure allowed them to work harder and more effectively. This itself is suggestive of the argument that more than one type of procrastinator exists. Others simply procrastinated due to an ability to manage time effectively. “Passive” procrastinators do not intend to procrastinate; they often end up doing so due to an inability to make quick, effective decisions. Affectively, an approaching deadline ultimately causes passive procrastinators to feel pressured, therefore creating pessimistic thoughts regarding their ability to achieve good results. Contrastingly, “active” procrastinators are able to act on their decisions in a positive, timely manner. However, they choose to postpone their actions and focus their attention on other tasks which may be just as significant (Chu & Choi, 2005). Chu and Choi’s 2005 Passive Procrastination scale (6-item) was used in this study (see Method).

### 1.2.3 Active Procrastination

Choi and Moran (2009) conceptualised active procrastination as involving four specific characteristics. Firstly, active procrastinators have a preference for time pressure. When confronted with last minute deadlines, the notion of being challenged causes increased motivation. They tend to be driven by an intrinsic need to cope and an extrinsic demand to complete the task. Secondly, active procrastinators make an intentional decision to procrastinate. While passive procrastinators tend to avoid deadlines, instead focusing on trivial tasks, active procrastinators make a focused decision to delay tasks, and amend their schedule based on changes to external demands. This flexibility shows cognitive thought in time perception and planning of complex tasks (Choi & Moran, 2009). Thirdly, unlike passive procrastinators, active procrastinators are seen to have the ability to meet deadlines thus challenging the notion that procrastination is a self-handicapping behavior. In contrast to passive procrastinators, active procrastinators understand how much time and effort is required to complete a certain task and will push themselves to achieve a result they are pleased with. Here, a task-orientated coping style, which is problem-focused and involves directly taking action in a given situation, is used to reduce stress levels (Nicholls, Polman, Levy, & Borkolis, 2010). Lastly, active procrastination is characterised by outcome satisfaction. Because active procrastinators understand the task at hand and what is required of them, they are able to motivate themselves under pressure and often obtain above satisfactory outcomes for their efforts, despite clear task delay. Although at face value this argument does not seem distinct from time pressure, it incorporates adaptability to challenging situations (Nicholls et al., 2010). Even though active procrastinators may be dissatisfied with their last minute efforts, they accept the limitations imposed on them and adapt to the situation in order to complete the task at hand (Choi & Moran, 2009).

There has been some concern about whether active procrastination is procrastination at all, and is simply indicative of time management (Van Eerde, 2003) or of “active delay” (Klingsieck, 2013; Lindt, Corkin, & Yu, 2013). Furthermore, it has been suggested that active procrastination cannot be deemed as procrastination as it is a positive spin (the “opposite” pole) on a negative concept (Brownlow & Reasinger, 2000). However, upon inspection of both definitions, it is clear that active procrastination which clearly mentions the voluntary, justified postponement of tasks or actions (Chu & Choi, 2005), shares similar attributes with the concept of traditional procrastination, which also suggests voluntary time delay (Simpson & Pychyl, 2009). Therefore, despite being a positive ideology derived from the traditional, negative components of procrastination, active procrastination is indeed conceptually a form of procrastination. Given the distinctions made between active and passive procrastination we decided to use Choi and Moran’s Active Procrastination Scale (see Method for more information) and to examine the well-being, active procrastination (or delay) and passive procrastination relationships using this measure.

## 1.3 Procrastination and Psychological Well-Being

Procrastination has in fact been researched extensively in relation to psychological well-being (Riulli, Savicki, & Richards, 2012)—but not in regard to both active and passive procrastination as defined by Choi and Moran (2009). Considering this information in relation to procrastination, it can be inferred that subjects who are prone to procrastination will have lower psychological well-being scores. This is because procrastination, according to

Sirois and Tosti (2012), is a strategy which enables immediate, temporary relief from stressful thoughts and situations. However, this strategy may ultimately create more distress if the task at hand is left incomplete. This leaves many procrastinators feeling overwhelmed, causing stress and affecting physical well-being. This distress also plays a key role in reduced psychological well-being, by creating self-criticising thoughts and negative self-judgments (Sirois & Tosti, 2012).

Students with higher psychological well-being would be expected to perceive the academic environment as less daunting, making them less likely to procrastinate (Riolti et al., 2012). Those with low psychological well-being are more likely to procrastinate. Positive metacognitive beliefs (Fernie & Spada, 2008) are said to improve academic confidence (self-confidence and efficacy beliefs), thus reducing procrastination. Contrastingly, ineffective metacognitive beliefs increase procrastination. These empirical findings indicated that the relationship between procrastination and psychological well-being is also cyclic, with low psychological well-being, including cognitive processes, increasing the likelihood of procrastination but increased procrastination then decreasing psychological well-being (Fernie & Spada, 2008). However, the studies cited have all been in regard to traditional procrastination (or “passive procrastination”). No studies were known that have helped clarify psychological well-being in relation to both active and passive procrastination. This paper addresses this gap in the literature. The hypotheses set up for the study follow.

#### *1.4 Hypotheses*

Based on the review of empirical literature, two hypotheses were developed:

Hypothesis 1: High psychological well-being would predict active procrastination, as measured by a separate active procrastination scale. If you feel good about yourself and your attributes, you may procrastinate but still meet deadlines effectively.

Hypothesis 2: Low psychological well-being would predict passive procrastination, as measured by a separate passive procrastination scale.

## **2. Method**

### *2.1 Participants*

Participants were made up of 152 university students from universities across Queensland, New South Wales, and South Australia (114 females, 38 males). Ages ranged from 18 to 54 years, with a mean age of 23.3 ( $SD = 18$ ). Participants were primarily undergraduate students. The highest level of education completed by participants was a postgraduate degree (high school = 87, undergraduate degree = 48, post graduate degree = 17). Inclusion criteria required that participants were currently enrolled in an undergraduate or postgraduate course at an Australian tertiary institution.

### *2.2 Materials*

#### *2.2.1 Active Procrastination Scale*

Choi and Moran's (2009) Active Procrastination Scale is a 16-item self-report scale, assessing active procrastination, a new construct in psychological literature. The scale tested active procrastination across four dimensions: outcome satisfaction, preference for pressure, intentional decision, and ability to meet deadlines. Each statement was rated on a 7 point Likert Scale. Example items include “I don't do well if I have to rush through a task” and “I intentionally put off work to maximise my motivation”. A higher score indicates a higher level of active procrastination. The present study found Cronbach's Alpha = .81 for the full scale consistent with Choi and Moran's psychometrics provided on the scale.

#### *2.2.2. Passive Procrastination Scale*

Chu and Choi's (2005) Passive Procrastination Scale is a six item, self-report questionnaire designed to assess the level of passive procrastination present among participants. These questions were developed from previous measures of procrastination (Ferrari, Johnson, & McCown, 1995; Schouwenburg, 1995), and modified to suit the general population. They consequently measure the traditional concept of procrastination, involving delaying of tasks, hesitancy and self-doubt. An example item is “Even after I make a decision I delay acting upon it.” Each statement was rated on a 7 point Likert Scale. A high score on the PPS indicates a higher level of passive procrastination. The present study found Cronbach's Alpha = .65. This scale has been used to distinguish between active and passive procrastinators (Morford, 2008). The Passive Procrastination Scale has been shown to be unrelated to active procrastination (with an insignificant correlation coefficient also found in the current study: -.13, see Table 2), demonstrating discriminant validity and thus confirming that two distinct forms of

procrastination exist (Chu & Choi, 2005; Choi & Moran, 2009), though more research is warranted on the two dimensions.

### 2.2.3 Ryff's Scales of Psychological Well-Being

Ryff's (1989) Scale of Psychological Well-being, has been used in many different-length versions but the 54 item version self-report scale may be most common: the scales assess the key features of psychological well-being based on six dimensions of positive functioning (Kafka & Kozma, 2011; Ryff, 1989). These dimensions are self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life and personal growth. Items are scored on a six-point Likert scale. A high score indicates that the person has mastered that area in their life. A positive item example is: "In general I feel confident and positive about myself". Reverse scoring items are also used. An example item includes "I don't have a good sense of what it is I'm trying to accomplish in life". Previous research has shown Cronbach Alpha's for the total scores for the six dimensions to be strong (Kafka & Kozma, 2011) being .94 for the 54-item version in our study, and .77 to .86 across the six dimensions.

The present study examined separately the relationships of psychological well-being and its six dimensions to procrastination type using initial bivariate comparisons, and then a series of standard multiple regressions predicting separately active and passive procrastination.

### 3. Results

Prior to analysis, all variables were examined for accuracy of data entry, missing values, and for the fit between the distributions and assumptions. The final sample size was 152 participants. Assumptions for multiple regression were checked and met. Table 1 shows the means, standard deviations and measures of internal consistency for the independent and dependent measures used in the analyses.

Table 1. Means, standard deviations, and coefficient alpha for active procrastination, passive procrastination, and psychological well-being

	<i>M</i>	<i>SD</i>	Cronbach Alpha
Active Procrastination	62.85	13.77	.81
Passive Procrastination	24.37	6.44	.65
Psychological Well-Being	193.56	13.45	.94
Autonomy	34.57	13.36	.77
Environmental Mastery	33.98	3.71	.83
Personal Growth	29.61	3.94	.78
Positive Relations	33.05	4.97	.81
Purpose in Life	27.76	3.79	.80
Self-acceptance	34.60	3.83	.86

Table 2 shows the correlations for predictor and criterion variables. Total psychological well-being scores are related as expected *in opposite directions* in regard to active procrastination (.45) and to passive procrastination (-.34). Similar relationships are seen between procrastination and the psychological well-being sub-scales.

Table 2. Pearson product moment correlation coefficients for criterion (procrastination) and predictor variables

	1	2
1 Active Procrastination	-	
2 Passive Procrastination	-.13	-
3 Psychological Well-Being	.45**	-.34**
4 Autonomy	.42**	-.35**
5 Environmental Mastery	.43**	-.37**

6 Personal Growth	.33**	-.20*
7 Positive Relations	.39**	-.07
8 Purpose in Life	.19*	-.39**
9 Self-acceptance	.38**	-.14

Note.  $N = 152$ . \* $p < .05$ . \*\* $p < .01$

We next examined via multiple regressions first how well total psychological well-being (with age and gender entered at step one) predicted the two procrastination variables, and second how well the six dimensions (sub-scales) of the psychological wellbeing questionnaire predicted the two procrastination variables.

### 3.1 Hypothesis 1

Hypothesis 1, that high psychological well-being would predict *active procrastination*, was supported. Table 3 shows the results.  $R$  was significant,  $F(6, 147) = 11.09$ ,  $p < .001$ , with  $R^2$  (effect size) at .23. The adjusted  $R^2$  value of .21 indicated that 21% of the variance in active procrastination was accounted for by the predictor variables. Psychological well-being was a highly significant predictor of active procrastination, but neither age nor gender contributed significantly.

Table 3. Multiple regression analysis predicting active procrastination from psychological well-being (PWB), age, and gender

Predictor	$\Delta R^2$	$R^2$ adjusted	$F$	$B$	$SE B$	$\beta$	$t$
Constant	.23	.21	11.09***				3.49**
PWB				.18	.03	.49	6.22***
Age				-.20	.14	-.11	-1.44
Gender				-3.44	2.15	-.12	-1.60

Note.  $N = 152$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

To analyse this relationship further, standard multiple regression was used to assess which facets of psychological well-being predicted active procrastination. Table 4 shows the results.

Table 4. Multiple regression analysis predicting active procrastination from psychological well-being scales

Predictor	$\Delta R^2$	$R^2$ adjusted	$F$	$B$	$SE B$	$\beta$	$t$
Constant	.28	.25	9.45***				3.69***
Autonomy				.43	.18	.23	2.43*
Environmental Mastery				.34	.20	.22	1.72
Personal Growth				.29	.21	.15	1.38
Relationships with Others				.31	.16	.18	1.98
Purpose				-.51	.21	-.27	-2.49*
Self-Acceptance				.10	.18	.07	.57

Note.  $N = 152$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

As shown in Table 4,  $R$  for regression was significant,  $F(6, 145) = 9.45$ ,  $p < .001$ , with  $R^2$  (effect size) at .28. The adjusted  $R^2$  value of .25 indicates that 25% of the variance in active procrastination was accounted for by the model (the six facets of psychological well-being). Autonomy and purpose in life were the only significant predictors with higher autonomy and lower sense of purpose predicting active procrastination. People with a sense of autonomy tend to take or make opportunities to be active procrastinators; but those with a higher sense of purpose in life tend not to be active procrastinators.

### 3.2 Hypothesis 2

Hypothesis 2, that low psychological well-being would predict *passive* procrastination, was supported. Table 5 shows the results. R for regression was significant,  $F(4, 147) = 5.91, p < .001$ , with  $R^2$  (effect size) at .14. The adjusted  $R^2$  value of .12 indicates that 12% of the variance in passive procrastination was accounted for by the predictor variables. Age and psychological well-being (but not gender) were significant predictors of passive procrastination. This finding suggests that passive procrastination is predominantly found in those with lower psychological well-being and among the younger subjects.

Table 5. Multiple regression analysis predicting passive procrastination from psychological well-being (PWB), age, and gender

Predictor	$\Delta R^2$	$R^2$ adjusted	$F$	$B$	$SE B$	$\beta$	$t$
Constant	.14	.12	5.91***				8.58***
PWB				-.07	.02	-.29	-3.55**
Age				-.21	.10	-.17	-2.09*
Gender				-.79	1.50	-.04	-.53

Note.  $N = 152$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$

To further understand the relationship between passive procrastination and psychological well-being, a standard multiple regression was run to assess which facets of psychological well-being most strongly predicted passive procrastination. Table 6 shows the results. R for regression was significant,  $F(6, 145) = 12.22, p < .001$ , with  $R^2$  (effect size) at .34. The adjusted  $R^2$  indicates that 31% of the variance in passive procrastination was accounted for by facets of psychological well-being. Autonomy, environmental mastery, purpose all were significant negative predictors of passive procrastination; higher levels of self-acceptance were directly predictive of passive procrastination, but personal growth and relationships with others were insignificant contributors. These results indicate that lower autonomy, lower environmental mastery, lower sense of purpose and an easy-going self-acceptance significantly predicted passive procrastination.

Table 6. Multiple regression analysis predicting passive procrastination from psychological well-being scales

Predictor	$\Delta R^2$	$R^2$ adjusted	$F$	$B$	$SE B$	$\beta$	$t$
Constant	.34	.30	11.87***				9.39***
Autonomy				-.30	.11	-.25	-2.70**
Environmental Mastery				-.59	.13	-.55	-4.41***
Personal Growth				.18	.14	.13	1.30
Relationships with Others				.16	.10	.14	1.63
Purpose				-.49	.13	-.40	-3.82***
Self-Acceptance				.53	.12	.52	4.37***

Note.  $N = 152$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$

## 4. Discussion

The aim of this study was to examine how psychological well-being is related to active procrastination and to passive procrastination.

The first hypothesis, that high psychological well-being would predict active procrastination, was supported. This finding supported previous research that demonstrated that high psychological well-being is associated with active procrastination (Chu & Choi, 2005; Sirois & Tosti, 2012). When psychological well-being was divided into its component facets and these were entered as independent predictor variables (against the active procrastination criterion), the significant psychological well-being facets predictive of active procrastination were autonomy (positively) and sense of purpose (negatively).



These are interesting findings raising a dilemma. First, psychological well-being was positively related to active procrastination. Looking ahead to hypothesis 2, psychological well-being there was related negatively to passive traditional procrastination. These two results support each other and are in line with the earlier studies (including where low levels of depression anxiety and stress were seen as indicators of well-being). The dilemma however, lies in the specific facet analyses that suggest a positive weighting or relationship for one of the six facets and a negative weighting or relationship for another—of six facets that are all positively inter-correlated. Making sense of the findings may involve noting that being autonomous is a strong positive influence on one's living and it can readily be seen as related to *active* procrastination where deliberate delay, and a sense of control in what one is doing, are part of the active procrastination definition (Choi & Moran, 2009). It is unclear why a sense of purpose in life would be negatively related to active procrastination. However, it is perhaps plausible that if we have a low sense of purpose we may not be “active” in our decisions about procrastination; and, perhaps more strongly, *if we do have a strong sense of purpose* then procrastinating at all would get in the way of what one is seeking to achieve and what is highly valued for the individuals. But these are speculation and need to be examined in further research. In the meantime, checking how sense of purpose fares in the hypothesis 2 exploration of passive procrastination, it is noted that again there is a strong negative relationship with the procrastination variable. That is, sense of purpose also contributes negatively to passive procrastination (as it does to active procrastination). The common ingredient may well be that sense of purpose requires non-procrastination.

The second hypothesis that low psychological well-being would predict passive procrastination was supported. That is, the lower the psychological well-being score, the higher the score on passive procrastination. This finding is consistent with past research which indicates that the tendency to procrastinate due to time pressure ultimately creates higher levels of stress, self-critical thoughts and negative self-judgments (Sirois & Tosti, 2012) and other research demonstrating that traditional (passive) procrastinators tend to have negative metacognitive beliefs, indicative of low psychological well-being (Fernie & Spada, 2008). Our findings support the suggestions that low psychological well-being is associated with increased procrastination (passive).

To analyse the relationship between psychological well-being and passive procrastination further, the specific facets of psychological well-being were examined. Four of the six subscales of psychological well-being significantly predicted passive procrastination: being autonomy (negatively), environmental mastery (negatively), sense of purpose (negatively) and self-acceptance (positively). This suggests that ineffective decision-making, an ineffective capacity to manage internal and external demands, and a lack of self-purpose, all predict passive procrastination. Interestingly, the current study identified that those high in self-acceptance were more likely to passively procrastinate. This finding is inconsistent with past research on passive (traditional) procrastination (Steel, 2007). However, this is a finding that raises a similar dilemma to that raised by the sense of purpose opposing trend for predicting active procrastination. It is possible that acceptance of oneself can also incorporate acceptance of being a procrastinator. It is also possible that sampling bias has affected the results. In any case more study on this aspect of well-being in relation to procrastination would also be fruitful.

#### *4.1 Possible Limitations and Sampling Issues*

There are the usual sampling and study limitations: such as that there could be unintended bias occurring in the particular sample chosen; the sample size and composition could be increased for more “powerful” results; we used self-report inventories for our study and don't know whether in practice the respondents were higher or lower on procrastination; and finally the sample used in this study was a university sample and not a general community or workplace sample. There is ample empirical evidence that procrastination behaviours manifest in the workplace and generally (e.g., Gupta et al., 2012), but procrastination is also clearly to be found across student populations (Choi & Moran, 2009). Accordingly, although usually a limitation in psychological research, a university sample may be preferred. This is because procrastination may tend particularly to affect university students, as students' lives are characterised by the need to manage time to meet frequent deadlines (Chu & Choi, 2005); this was the rationale for using the sample in the present study. Further studies in non-student samples could further the findings from the current study.

#### *4.2 Summary and Implications*

By demonstrating that psychological well-being has different predictive effects on active and passive procrastination, the current research project supported the need for separation of procrastination into two distinct concepts. When assessing a psychological construct as complex as procrastination, the parts must be identified clearly and examined from multiple perspectives. This raises concerns for those who may prefer the original

construct and measurement methods. However, procrastination is indeed complex, and further research into the construct and its multiple facets is needed.

The present research has shown that psychological well-being predicts both active and passive procrastination. No empirical research to date had used the concepts of active and passive procrastination in relation to psychological well-being. This research therefore provides a possible explanation as to why previous literature has noted inconsistencies regarding the relationship between procrastination and psychological well-being (Corkin et al., 2011). These results of the current study lay the foundation for future research to clarify more of the inconsistencies and complexities in procrastination research.

Overall, our findings encourage continued empirical investigation and use of the concepts of active and passive procrastination. In terms of practical implications, the current findings provide more clarity regarding the long-standing question of why some people are more likely to procrastinate than others. Furthermore, this research provides more fuel to the argument that procrastination is not necessarily a maladaptive construct. Instead, procrastination can be viewed in some circumstances, as an adaptive way of prioritising tasks of varying importance. Future research may opt to incorporate a longitudinal design to detect changes in procrastination patterns through years of education and into the work force. This type of research would clarify the causal directions of the observed relationships between psychological well-being and different forms of procrastination.

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