Queensland University of Technology

School of Management

Doctor of Philosophy – Stage Two Proposal

Proposed Title

“Why trait extraversion leads to emergent leadership and the implications for aspiring introverted leaders”

Candidate

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Proposed Supervisors

Dr. Peter O’Connor (Principal Supervisor)
Associate Professor Cameron Newton (Associate Supervisor)

Submission Date

6 July 2014
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Proposed Supervisors and their Credentials

Principal Supervisor: Dr. Peter O'Connor, QUT Business School
Peter O’Connor is a Senior Lecturer in the School of Management and has considerable supervision experience. He has supervised 5 honours students and 1 PhD student (to completion) and is currently supervising a further 3 PhD students. Peter specialises in research related to personality, emotional intelligence, leadership and workplace performance and has published on these topics in several highly ranked international journals.

Associate Supervisor: Associate Professor Cameron Newton, QUT Business School
Associate Professor Newton is a highly experienced supervisor of research students and is a Level 3 Mentoring HDR Supervisor under the QUT Supervisor Accreditation System. He has considerable research experience in organisational psychology, organisational culture, identity and effectiveness, and stress and wellbeing.

Background and Literature Review

Introductory Statement
This thesis seeks to investigate the drivers underlying the well-established relationship between trait extraversion and emergent leadership (Judge, Bono, Ilies, & Gerhardt, 2002). Whilst research to date has consistently found that extraversion is positively associated with emergent leadership, there is still a lack of research exploring the mechanisms underlying this relationship and the reasons for a number of exceptions to it. Investigating the reasons why extraverts successfully emerge as leaders more so than introverts will improve our understanding of leadership in general and, more specifically, the challenges introverts face when aspiring to leadership positions. In line with this, the overall objective of the thesis is to explain why extraverts are more likely than introverts to emerge as leaders, and to use this knowledge as a basis for improving leadership outcomes for introverts.

The literature review that follows provides a brief summary of emergent leadership, extraversion and personality-related variables that are proposed to contribute to the
extraversion-emergent leadership relationship. These variables include enacted extraversion, positive and negative affective forecasting, trait fearfulness and trait anxiety.

Literature Review

Leadership and Extraversion

Robbins & Judge (2013, p. 368) define leadership as “the ability to influence a group towards the achievement of a vision or set of goals”. However, whilst Robins & Judge’s definition is sound, it does not obviously distinguish between the two fundamental leadership constructs that have been researched extensively in the literature: emergent leadership and leadership effectiveness (Lord, De Vader, & Alliger, 1986; Judge, Bono, Ilies, & Gerhardt, 2002). Whilst leadership effectiveness is of critical importance to organisations as suggested by Robbins and Judge’s definition (i.e. a leader is effective when their team is achieving goals that contribute to the organisational vision), one can only become a leader if they emerge as so in the first instance, either formally (e.g. via promotion to a position of greater authority) or informally (e.g. via peer acceptance). In terms of an established definition of emergent leadership, Judge, Bono, Ilies, & Gerhardt (2002, p. 767) define the construct as the “degree [to which] an individual is viewed as a leader by others, who typically have only limited information about that individual’s performance”. As such, this definition suggests that in order to rise into a leadership position, one must be perceived by others as “leader-like” - an argument also put forth by Hogan, Curphy, & Hogan (1994).

When assessing the relationship between emergent leadership and leadership effectiveness, Hogan, Curphy, & Hogan (1994) argued that the factors determining one’s likelihood to rise into a leadership position may not be the same as those that determine one’s leadership effectiveness. The implication of this argument is that either an ineffective leader may rise to a position of power and responsibility or, alternatively, a potentially effective leader may not. However, overall, research tends to demonstrate that these two constructs are indeed correlated (Foti & Hauenstein, 2007).

Much research has also investigated the relationship between leadership and extraversion. According to the Big Five personality model, the facets of extraversion include warmth, gregariousness, assertiveness, activity level, excitement seeking and positive emotions.
Extraversion is an important construct in the personality literature and has been associated with a number of outcomes. A particularly important and robust relationship is that of positive affect (Eysenck, 1967; Eysenck, 1981; Eysenck & Eysenck, 1985) and subjective well-being, such that the more extraverted one is, the more likely they are to experience feelings of happiness and life satisfaction (DeNeve & Cooper, 1998). In turn, these feelings of wellbeing are associated with numerous life advantages such as improved marriage, friendship, income, work performance and health (Lyubomirsky & King, 2005). When looking at leadership and job attitudes, we find a similarly unfavourable story for introverts. As alluded to above, extraversion has been shown to be a predictor of emergent leadership and leadership effectiveness (Judge, Bono, Ilies, & Gerhardt, 2002). An earlier study also showed that extraversion was related to assertion (Vestewig & Moss, 1976), a crucial skill in leadership positions.

Recent Research on the Benefits of Introversion

One could be forgiven for thinking that introverts are doomed to be forever in the shadow of their extraverted colleagues, especially with respect to workplace success and leadership. Fortunately, however, there are two germinating areas that are reassessing this extraverted advantage.

The first comes from Grant, Gino, & Hofmann (2011). In this study, the authors found that introverted leaders were more effective than extraverted leaders when the teams they were leading were more proactive. Conversely, extraverted leaders were more effective than introverted leaders when the teams they were leading were more passive (less proactive). The authors theorise that introverted leaders are better at listening to, and subsequently harnessing, the ideas of their team, whereas extraverted leaders have a greater tendency to ‘take over’, effectively stifling their team’s creativity. Extraverts are deemed to be better with passive teams because they are better at energising the team to take action.

Grant et al.’s study has made an important contribution to the extraversion-introversion debate and has since spawned a number of follow-up studies that have found similarly redeeming qualities in the introverted trait. For example, in a study by Martin, Liao, &
Campbell (2013), it was found that directive leadership enhanced proactive behaviours for work units that were already highly satisfied with their leaders, however empowering leadership was more effective in improving task proficiency and proactive behaviours in teams that were less satisfied with their leaders. The more directive leadership style - a typically extraverted characteristic - was less effective, except when the team was already satisfied with their leader. When contrasted with the study by Grant, Gino & Hofmann (2011), the implication is that introverted leaders may have an advantage not just in leading proactive teams, but building them as well (if it can be assumed that Grant et al.'s introverts were engaging in empowering leadership behaviours when leading the proactive teams – not an unreasonable assumption).

In another study by Hunter et al. (2013), extraversion was found to be negatively correlated with servant leadership\(^1\), a form of leadership that encourages pro-social employee behaviour (e.g. increased service levels). Finally, Tost, Gino, and Larrick (2013) found that power, when combined with position status, resulted in the leader exhibiting verbally dominant behaviour, which in turn negatively affected team communication and performance. These two studies emphasise some of the darker sides of dominant behaviour - behaviour which is a core tenant of trait extraversion.

**Enacted extraversion**

The second area of promise for introverts is that of enacted extraversion. Enacted extraversion is the state (short-term) version of trait (long-term/enduring) extraversion and can occur in counter-dispositional situations, i.e. when a trait introvert engages in state extraverted behaviour (Fleeson, 2001; Fleeson & Gallagher, 2009). The idea of counter-dispositional personality behaviour has been growing over the last decade and a half (Fleeson, 2001; Fleeson & Gallagher, 2009; Zelenski, et al., 2013; Smillie, 2013)\(^2\). With specific regard to extraversion-introversion, the concept of enacted extraversion has proven

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\(^1\) In the opening of this literature review it was stated that there were two fundamental leadership constructs - emergent leadership and leadership effectiveness. Indeed, there are many leadership constructs in the literature, one of which is servant leadership. However, it is argued that constructs such as servant leadership serve to enhance leadership effectiveness and therefore are not competing theories.

\(^2\) Fleeson (2001) determined that traits are the average of states. That is, an individual will experience highly varied behaviour over the long term, however when these behaviours measured and then averaged, the average is very stable across time. This 'average' behaviour, Fleeson argues, represents the underlying trait.
to be effective in altering the state behaviour of trait introverts such that they enjoy the positive benefits typically associated with extraversion, as discussed above (Wilt, Noftle, Fleeson, & Spain, 2012; McNiel, Lowman, & Fleeson, 2010).

Whilst enacted extraversion has been given increased attention in the literature, there has not been any attempt to study its relationship with emergent leadership, either from a theoretical or practical perspective. That said, in the study by Grant, Gino & Hofmann (2011) mentioned earlier, the authors conducted an experiment whereby participants were required to change their behaviour when acting in a leadership role, i.e. introverted leaders were told to be more assertive (an extraverted behaviour) when managing a passive team. Whilst the study utilised enacted extraversion, its purpose was to reassess the relationship between trait extraversion and leadership effectiveness by incorporating team composition as a variable, rather than to directly assess enacted extraversion's role in well-established personality-leadership relationships. Nevertheless, the study provides an excellent grounding for further research in this regard.

The Model

The overall model to be tested in this thesis is illustrated in Figure 1. It is based on the primary proposition that extraverted individuals are more likely to emerge as leaders. Because enacted extraversion is a mechanism by which trait extraversion leads to well-established outcomes (e.g. positive affect), the model will test enacted extraversion as a mechanism by which trait extraversion leads to emergent leadership (i.e. one must act extraverted "in the moment" in order to emerge as a leader). This argument forms the basis of the outer triangle in Figure 1, which shows how enacted extraversion may be a pathway to leadership emergence from trait extraversion. The other components of the model - affective forecasting, trait anxiety and trait fearfulness - relate theoretically to extraversion and are discussed in detail below.
Figure 1: The full research model (Note: Fearfulness/anxiety and +ve/-ve affect are grouped purely to reduce diagram clutter. They will in fact be measured and tested as independent constructs, as detailed in the methodology section.)

**Affective Forecasting**

As discussed above, positive affect has a well-established relationship with trait extraversion. However, an area that has only recently been given attention is that of affective forecasting. For the purposes of this research, and as adapted from the work by Zelenski et al. (2013), affective forecasting is defined as the level of positive and negative affect that one expects to experience from some future task. Zelenski et al.’s (2013) study found that introverts are more likely to underestimate the level of positive affect associated with acting extraverted. In their experiments, when introverts acted extraverted (i.e. they engaged in enacted extraversion), they experienced higher levels of positive affect than they expected before engaging in the enacted extraversion activity. This suggests that affective forecasting may play a role in one’s desire to engage in enacted extraversion, hence the associated link in the model (see Figure 1). In addition, given the hypothesised relationship of positive and negative affective forecasting as a mediator between trait extraversion and enacted extraversion, and given the well-established relationship between reward seeking,

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3 It is important to note that positive and negative affect are theoretically independent constructs and therefore do not exist on a single continuum as one might intuitively expect.
positive affect and trait extraversion, it stands to reason that affective forecasting might play a mediating role in the relationship between trait extraversion and emergent leadership as well. That is, trait extraverts may emerge as leaders because they forecast a) greater levels of positive affect, and b) lower levels of negative affect when thinking about rising to leadership positions. It is this argument that forms the completed middle mediating link in the model (see Figure 1).

Neuroticism (Emotionality)

It is further argued that trait neuroticism plays a role in the extraversion-leadership relationship. Briefly, trait neuroticism is concerned with emotional instability such that an individual who is high in neuroticism will be fearful, anxious, depressed and insecure (Robbins & Judge, 2013). Along with extraversion, neuroticism was studied by Eysenck (1967) and Gray (1970) from a biological perspective in the mid part of the 20th Century. Gray argued that neuroticism was responsible for increasing the susceptibility of extraverts to reward and introverts to punishment. Later studies have since provided evidence of this, suggesting that neurotic individuals are more susceptible to stress (Bolger & Schilling, 1991; Mroczek & Almeida, 2004). Neuroticism has also been studied in the leadership arena whereby it has been negatively associated with both leadership effectiveness and emergent leadership (Judge, Bono, Ilies, & Gerhardt, 2002).

Referring back to the discussion on affective forecasting, trait introverts forecast higher levels of negative affect and self-consciousness when asked to think about behaving extraverted compared to behaving introverted. In other words, trait introverts think that extraverted behaviour will be unpleasant for them (Zelenski, et al., 2013). In this study, the authors included self-consciousness as a variable in their test of introverts' affective forecasting of enacted extraversion. Self-consciousness is conceptually similar to aspects of neuroticism within the HEXACO emotionality dimension; specifically, trait fearfulness and trait anxiety. As such, these constructs may act as moderators in the relationship between trait extraversion and a) positive affective forecasting, and b) negative affective forecasting.

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4 HEXACO emotionality is the equivalent to Big Five neuroticism and includes four facets - fearfulness, anxiety, dependence and sentimentality.
That is, trait introverts may forecast lower levels of positive affect and higher levels of negative affect for ever increasing levels of trait fearfulness and trait anxiety when thinking about acting in counter-dispositional (extraverted) ways.

Finally, it is expected that trait fearfulness and trait anxiety will also moderate the relationship between trait extraversion and enacted extraversion because a) extraverted neurotics will enjoy the rewards of acting extraverted more than non-neurotic extraverts (Eysenck, 1967; Eysenck, 1981; Eysenck & Eysenck, 1985; Gray, 1970), and b) introverted neurotics will associate enacted extraversion with higher levels of punishment than non-neurotic introverts (Gray, 1970; Bolger & Schilling, 1991; Mroczek & Almeida, 2004). The above moderating relationships complete the research model in Figure 1.

**Research Problem**

Much of the research on extraversion over the last century has shown that extraverts experience higher degrees of positive affect, higher levels of job satisfaction and enjoy greater levels of emergent leadership and leadership effectiveness. More recently, however, research has provided hope for the embattled introverted population on two fronts. The first, led by Grant, Gino & Hofmann (2011) has indicated that introverts may be more effective when leading proactive teams, and the second, led by Fleeson & Gallagher (2009), has shown how introverts may be able to enact extraverted behaviours and enjoy the associated benefits that flow from doing so. However, little research has been done to shed light on why introverts struggle to emerge as leaders. This thesis seeks to address this important research gap by focusing on enacted extraversion and affective forecasting as a means by which trait extraversion leads to emergent leadership, whilst also assessing the moderating role of fearfulness and anxiety as part of the wider model. As such, there are four overarching research questions, as follows (for hypotheses refer to Appendix 2: Hypotheses):

1. To what extent does affective forecasting mediate the relationship between trait extraversion and emergent leadership?
2. To what extent does enacted extraversion mediate the relationship between trait extraversion and emergent leadership?
3. To what extent does affective forecasting mediate the relationship between trait extraversion and enacted extraversion?

4. What moderating roles do trait fearfulness and trait anxiety play in the proposed model?

Program and Design of the Research Investigation

Objectives, Methodology and Research Plan
In line with Edmondson & McManus’ (2007) advice when researching mature constructs, this methodology will be quantitative in nature and employ both a correlational survey and an experimental design. The design consists of three studies, which are built around the four research questions and each test a key component of the overall model depicted in Figure 1.

Study 1
The first research question addresses the potential mediating effect of affective forecasting on the primary relationship between trait extraversion and emergent leadership. It is proposed that this be tested via a correlational survey design to form the basis of Study 1, as shown in Figure 2. A secondary objective of Study 1, which contributes to the fourth research question, is to assess the moderating role that trait fearfulness and trait anxiety have on the relationship between trait extraversion and a) emergent leadership, b) positive affective forecasting and c) negative affective forecasting.

Emergent leadership will be measured via a self-report survey assessing participants' desire to rise into leadership positions. It is proposed that Chan & Drasgow's (2001) “motivation to lead” measure be used for this purpose.
Figure 2: Study 1 (correlational survey design) – expanded model showing the mediating role of positive and negative affective forecasting on the relationship between trait extraversion and emergent leadership (also shown are the moderating variables of trait fearfulness and trait anxiety).

Trait extraversion, fearfulness and anxiety will be measured using the HEXACO inventory\(^5\) (see Appendix 3: HEXACO 100). The HEXACO model, developed by Lee and Ashton (2004), was derived from the Big Five\(^6\) personality model and psycholexical studies (Ashton, Lee, & Goldberg, 2004; Ashton, et al., 2004).

Affective forecasting will be measured using a modified version of the survey developed by Zelenski, et al. (2013). This survey will measure participants' forecast level of positive and negative affect that they associate with the prospect of moving into a hypothetical leadership position.

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\(^5\) At the time of writing, there are two freely available and validated versions of the HEXACO inventory in both self-report and observer format, which can be downloaded from the authors' website at hexaco.org. The two inventories include the HEXACO 60 item inventory (Ashton & Lee, 2009) and HEXACO 100 item inventory (Lee & Ashton, 2004).

\(^6\) The Big Five is a well-established personality model which includes extraversion, agreeableness, neuroticism, openness to experience and conscientiousness and is most commonly measured using the NEO-PI-R inventory (Costa & McCrae, 1992).
Participants will be obtained through a third party survey provider, such as MTurk (see Appendix 4: MTurk).

**Study 2**

The second research question addresses the potential mediating effect of enacted extraversion on the primary relationship between trait extraversion and emergent leadership. It is proposed that this be tested via an experimental design to form the basis of Study 2, as shown in Figure 3. A secondary objective of Study 2, which contributes to the fourth research question, is to assess the moderating role that trait fearfulness and trait anxiety have on the relationship between trait extraversion and a) emergent leadership and b) enacted extraversion.

This study will be based on McNiel & Fleeson’s (2006) experiment. Prior to starting the laboratory-based experiment, the HEXACO 100 trait-based inventory will be administered to participants. This will measure their trait extraversion as well as their trait fearfulness and trait anxiety. Participants will be randomly assigned to groups of 4 and required to solve a group task (e.g. a scenario whereby the group must determine the priority of survival gear during a crisis). In line with the recommendations by McNiel & Fleeson (2006), participants will be given instructions on whether to act extraverted or introverted, unless they are assigned as the neutral observer (in which case no instructions on how to act will be given). No participant will know what instructions have been given to the others. They will complete the task and then complete a series of self-report and observer surveys. These will include an assessment of emergent leadership using the General Leadership Impression scale (Lord, Foti, & De Vader, 1984), as well as an assessment of enacted extraversion using McNiel & Fleeson’s (2006) survey.

Analysis will be conducted to assess the degree to which enacted extraversion increases emergent leadership. Analysis will also be performed to assess the moderating role that trait fearfulness and trait anxiety each have on the relationship between trait extraversion and a) leadership emergence and b) enacted extraversion. Other personality traits will be controlled for.
It is proposed that participants be recruited from first year psychology students for course credit as part of tutorials run by the primary supervisor.

**Study 3**

The third research question addresses the potential mediating effect of both positive and negative affective forecasting on the relationship between trait extraversion and enacted extraversion. It is proposed that this be tested via an experimental design to form the basis of Study 3, as shown in Figure 4. A secondary objective of Study 3, which contributes to the fourth research question, is to assess the moderating role that trait fearfulness and trait anxiety have on the relationship between trait extraversion and a) enacted extraversion, b) positive affective forecasting and c) negative affective forecasting.
As with Study 2, Study 3 will involve administering the HEXACO 100 trait-based inventory to participants prior to taking part in the laboratory-based experiment. This will measure their trait extraversion, trait fearfulness and trait anxiety. They will also be given an affective forecasting survey, as used by Zelenski, et al. (2013). This survey will measure participants' base level of forecast positive and negative affect associated with the imminent activity. After this initial testing, participants will be randomly assigned to groups of four based on a modified version of McNiel and Fleeson’s (2006) experiment. The participants will then engage in a rotation between groups and complete further testing (see Appendix 5: Study 3 Rotational Design for a detailed description).

Analysis will be conducted to assess the degree to which positive and negative affective forecasting each affect participants’ levels of enacted extraversion. Analysis will be also performed to assess the moderating role that trait fearfulness and trait anxiety each have on the relationship between trait extraversion and a) positive affective forecasting, b)
negative affective forecasting and c) enacted extraversion. Other personality traits will be controlled for.

It is proposed that participants be recruited from first year psychology students for course credit as part of tutorials run by the primary supervisor.

Resources and Funding Required
The program fees are funded under the Australian Government Research Training Scheme. Additional funding will be sought from grants to assist with the data collection phase, however specific grants have not yet been identified. The expected cost required from grant sources is approximately $5,000. This is based on the cost of survey collection for Study 1 (1000 surveys x $3.5 per survey) plus $1,500 in materials.

Additional resources required include the use of university rooms to conduct the laboratory experiments for Study 2 and Study 3. This phase is anticipated to occur over an 18 month period starting in Q2 2016.

All other materials and resources will be funded by the researcher personally.

Individual Contribution to the Research Team
This research will be conducted individually and as such this section does not apply.

Timeline for Completion of the Program
The start date for the program was January 2014 and the expected completion date is quarter 4 of 2019 (based on a part-time schedule), noting that funding via the Research Training Scheme expires at the end of 2021 (based on 8 years of part-time study). The following plan details the stages and timeframes to meet the Q4 2019 deadline (also see Appendix 6: Project Timeline):

- Q1 2014: Commence program.
- Q2 2014: Complete AIRS course, BSN502 course and Stage 2 proposal.
- Q3 2014: Complete year 1 progress report.
- Q4 2014: Complete BSN414 course.
- Q1 2015: Complete ethics confirmation.
- Q2 2015: Complete BSN412 course.
- Q3 2015: Complete implementation and analysis of pilot instruments.
- Q4 2015: Submit confirmation document and complete BSN503 course.
- Q1 2016: Complete revision of research instrument(s).
- Q4 2016: Complete write-up of methodology chapter.
- Q3 2017: Complete data gathering.
- Q4 2017: Complete analysis of results.
- Q3 2018: Complete write-up of analysis and findings chapter.
- Q4 2018: Complete write-up of discussion chapter.
- Q2 2019: Complete write-up of conclusion and introduction chapter.
- Q3 2019: Complete thesis review and arrange for submission.
- Q4 2019: Complete any final alterations to thesis.
Reference List


## Appendix

### Appendix 1: Course Work

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>Code</th>
<th>Name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1, 2014</td>
<td>AIRS</td>
<td>Advanced Information Retrieval Skills</td>
<td>Grade: HD</td>
</tr>
<tr>
<td>S1, 2014</td>
<td>BSN502</td>
<td>Research Methodology</td>
<td>Completed, results TBA</td>
</tr>
<tr>
<td>S2, 2014</td>
<td>BSN414</td>
<td>Quantitative Research Methods</td>
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<tr>
<td>S1, 2015</td>
<td>BSN503</td>
<td>Research Seminar</td>
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</tr>
<tr>
<td>S2, 2015</td>
<td>BSN412</td>
<td>Qualitative Research Methods</td>
<td>Not yet started</td>
</tr>
</tbody>
</table>
Appendix 2: Hypotheses

1. Trait extraversion is positively associated with emergent leadership.

2. Enacted extraversion partially mediates the relationship between trait extraversion and emergent leadership.

3. Positive affective forecasting partially mediates the relationship between trait extraversion and enacted extraversion.

4. Negative affective forecasting partially mediates the relationship between trait extraversion and enacted extraversion.

5. Positive affective forecasting partially mediates the relationship between trait extraversion and emergent leadership.

6. Negative affective forecasting partially mediates the relationship between trait extraversion and emergent leadership.

7. The relationship between trait extraversion and emergent leadership is moderated by trait fearfulness, such that the relationship is more positive if trait fearfulness is high.

8. The relationship between trait extraversion and emergent leadership is moderated by trait anxiety, such that the relationship is more positive if trait anxiety is high.

9. The relationship between trait extraversion and positive affective forecasting is moderated by trait fearfulness, such that the relationship is more positive if trait fearfulness is high.

10. The relationship between trait extraversion and negative affective forecasting is moderated by trait fearfulness, such that the relationship is more negative if trait fearfulness is high.

11. The relationship between trait extraversion and positive affective forecasting is moderated by trait anxiety, such that the relationship is more positive if trait anxiety is high.

12. The relationship between trait extraversion and negative affective forecasting is moderated by trait anxiety, such that the relationship is more negative if trait anxiety is high.

13. The relationship between trait extraversion and enacted extraversion is moderated by trait fearfulness, such that the relationship is more positive if trait fearfulness is high.
14. The relationship between trait extraversion and enacted extraversion is moderated by trait anxiety, such that the relationship is more positive if trait anxiety is high.
Appendix 3: HEXACO 100


HEXACO-PI-R

© Kibeom Lee, Ph.D., & Michael C. Ashton, Ph.D.

DIRECTIONS

On the following pages you will find a series of statements about you. Please read each statement and decide how much you agree or disagree with that statement. Then write your response in the space next to the statement using the following scale:

- 5 = strongly agree
- 4 = agree
- 3 = neutral (neither agree nor disagree)
- 2 = disagree
- 1 = strongly disagree

Please answer every statement, even if you are not completely sure of your response.

Please provide the following information about yourself.

Sex (circle): Female Male

Age: _______ years
1. I would be quite bored by a visit to an art gallery.
2. I plan ahead and organize things, to avoid scrambling at the last minute.
3. I rarely hold a grudge, even against people who have badly wronged me.
4. I feel reasonably satisfied with myself overall.
5. I would feel afraid if I had to travel in bad weather conditions.
6. I wouldn't use flattery to get a raise or promotion at work, even if I thought it would succeed.
7. I'm interested in learning about the history and politics of other countries.
8. I often push myself very hard when trying to achieve a goal.
9. People sometimes tell me that I am too critical of others.
10. I rarely express my opinions in group meetings.
11. I sometimes can't help worrying about little things.
12. If I knew that I could never get caught, I would be willing to steal a million dollars.
13. I would enjoy creating a work of art, such as a novel, a song, or a painting.
14. When working on something, I don't pay much attention to small details.
15. People sometimes tell me that I'm too stubborn.
16. I prefer jobs that involve active social interaction to those that involve working alone.
17. When I suffer from a painful experience, I need someone to make me feel comfortable.
18. Having a lot of money is not especially important to me.
19. I think that paying attention to radical ideas is a waste of time.
20. I make decisions based on the feeling of the moment rather than on careful thought.
21. People think of me as someone who has a quick temper.
22. On most days, I feel cheerful and optimistic.
23. I feel like crying when I see other people crying.
24. I think that I am entitled to more respect than the average person is.
25. If I had the opportunity, I would like to attend a classical music concert.
26. When working, I sometimes have difficulties due to being disorganized.
27. My attitude toward people who have treated me badly is “forgive and forget”.
28. I feel that I am an unpopular person.
29. When it comes to physical danger, I am very fearful.
30. If I want something from someone, I will laugh at that person's worst jokes.

Continued...
1 = strongly disagree     2 = disagree     3 = neutral     4 = agree     5 = strongly agree

31. I enjoy looking at maps of different places.
32. I often push myself very hard when trying to achieve a goal.
33. I generally accept people’s faults without complaining about them.
34. In social situations, I’m usually the one who makes the first move.
35. I worry a lot less than most people do.
36. I would be tempted to buy stolen property if I were financially tight.
37. I would enjoy creating a work of art, such as a novel, a song, or a painting.
38. When working on something, I don’t pay much attention to small details.
39. I am usually quite flexible in my opinions when people disagree with me.
40. I enjoy having lots of people around to talk with.
41. I can handle difficult situations without needing emotional support from anyone else.
42. I would like to live in a very expensive, high-class neighborhood.
43. I like people who have unconventional views.
44. I make a lot of mistakes because I don’t think before I act.
45. I rarely feel anger, even when people treat me quite badly.
46. On most days, I feel cheerful and optimistic.
47. When someone I know well is unhappy, I can almost feel that person’s pain myself.
48. I wouldn’t want people to treat me as though I were superior to them.
49. If I had the opportunity, I would like to attend a classical music concert.
50. People often joke with me about the messiness of my room or desk.
51. If someone has cheated me once, I will always feel suspicious of that person.
52. I feel that I am an unpopular person.
53. When it comes to physical danger, I am very fearful.
54. If I want something from someone, I will laugh at that person’s worst jokes.
55. I would be very bored by a book about the history of science and technology.
56. Often when I set a goal, I end up quitting without having reached it.
57. I tend to be lenient in judging other people.
58. When I’m in a group of people, I’m often the one who speaks on behalf of the group.
59. I rarely, if ever, have trouble sleeping due to stress or anxiety.
60. I would never accept a bribe, even if it were very large.

Continue...
People have often told me that I have a good imagination.
I always try to be accurate in my work, even at the expense of time.
When people tell me that I’m wrong, my first reaction is to argue with them.
I prefer jobs that involve active social interaction to those that involve working alone.
Whenever I feel worried about something, I want to share my concern with another person.
I would like to be seen driving around in a very expensive car.
I think of myself as a somewhat eccentric person.
I don’t allow my impulses to govern my behavior.
Most people tend to get angry more quickly than I do.
People often tell me that I should try to cheer up.
I feel strong emotions when someone close to me is going away for a long time.
I think that I am entitled to more respect than the average person is.
Sometimes I like to just watch the wind as it blows through the trees.
When working, I sometimes have difficulties due to being disorganized.
I find it hard to fully forgive someone who has done something mean to me.
I sometimes feel that I am a worthless person.
Even in an emergency I wouldn’t feel like panicking.
I wouldn’t pretend to like someone just to get that person to do favors for me.
I’ve never really enjoyed looking through an encyclopedia.
I do only the minimum amount of work needed to get by.
Even when people make a lot of mistakes, I rarely say anything negative.
I tend to feel quite self-conscious when speaking in front of a group of people.
I get very anxious when waiting to hear about an important decision.
I’d be tempted to use counterfeit money, if I were sure I could get away with it.
I don’t think of myself as the artistic or creative type.
People often call me a perfectionist.
I find it hard to compromise with people when I really think I’m right.
The first thing that I always do in a new place is to make friends.
I rarely discuss my problems with other people.
I would get a lot of pleasure from owning expensive luxury goods.

Continue...
91. I find it boring to discuss philosophy.
92. I prefer to do whatever comes to mind, rather than stick to a plan.
93. I find it hard to keep my temper when people insult me.
94. Most people are more upbeat and dynamic than I generally am.
95. I remain unemotional even in situations where most people get very sentimental.
96. I want people to know that I am an important person of high status.
97. I have sympathy for people who are less fortunate than I am.
98. I try to give generously to those in need.
99. It wouldn’t bother me to harm someone I didn’t like.
100. People see me as a hard-hearted person.
### SCORING AND DESCRIPTIVE STATISTICS

#### Scoring Keys for the 100-Item Version

<table>
<thead>
<tr>
<th>Category</th>
<th>Scoring Keys</th>
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<tr>
<td><strong>Honesty-Humility</strong></td>
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<tr>
<td>Sincerity</td>
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<tr>
<td>Fairness</td>
<td>12R, 36R, 60, 84R</td>
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<tr>
<td>Greed-Avoidance</td>
<td>18, 42R, 66R, 90R</td>
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<td>Modesty</td>
<td>24, 48, 72R, 96R</td>
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<td>Anxiety</td>
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<td>Dependence</td>
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<tr>
<td>Sentimentality</td>
<td>23, 47, 71, 95R</td>
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<tr>
<td><strong>Extraversion</strong></td>
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<td>Social Boldness</td>
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<td>Flexibility</td>
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<td>Patience</td>
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<td><strong>Openness to Experience</strong></td>
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<td>Creativity</td>
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<td>Unconventionality</td>
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<td><strong>(interstitial facet scale)</strong></td>
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<tr>
<td>Altruism</td>
<td>97, 98, 99R, 100R</td>
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</tbody>
</table>
Notes

Items indicated with R are reverse-keyed items; for these items, responses should be reversed prior to computing scale scores: 5 → 1, 4 → 2, 3 → 3, 2 → 4, 1 → 5

Facet scale scores should be computed as means across all items in facet, after recoding of reverse-keyed items. Note that the facet scales of the 100- and 60-item versions of the HEXACO-PI-R are very short and are not intended to have high levels of internal-consistency reliability. They are recommended for use as predictors of conceptually related criterion variables and as indicators of the HEXACO personality factors.

Factor scale scores should be computed as means across all items in factor. If orthogonal factor scale scores are desired, these can be calculated as varimax-rotated principal components of facet scales as calculated by a computer statistical package. (Note that a moderately large sample size (~250) may be needed to produce a stable component solution.)

The Altruism facet scale is associated with several factors. When calculating scores for the six factor scales, the Altruism facet scale items are not included. However, if factor scores are to be computed as principal components, the Altruism scale can be included along with the other 24 facet scales. (This facet generally divides its loadings between Honesty-Humility, Emotionality, and Agreeableness.)
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<th>Women (N=691)</th>
<th>Men (N=429)</th>
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<td>3.00 (.90)</td>
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<td>4.06 (.60)</td>
<td>3.63 (.69)</td>
<td>.66</td>
<td>3.77 (.69)</td>
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</table>

Note. Gender information is missing for 6 self-reports and 8 observer reports.
Appendix 4: MTurk

MTurk is widely used in academic research, particularly in North America and Australia. Results based on MTurk have been published in many high quality journals (e.g. Psychological Science, Personality and Social Psychology among others). MTurk provides excellent quality sampling in terms of demographic diversity as well as highly reliable data (Buhrmester, Kwang, & Gosling, 2011). The supervisors of this project, Dr Peter O’Connor and Associate Professor Cameron Newton, have previously conducted research using MTurk (QUT ethics number: 1000000763).
Appendix 5: Study 3 Rotational Design

There will be multiple groups operating simultaneously in the laboratory. One participant in each group will act as the observer and the second and third participant will be given no instructions on how to act. The fourth participant will be given no instructions on how to act during the first round. At the end of the first round, all participants will complete a series of post-activity surveys. These will include both a self-report and observer report survey for enacted extraversion based on McNiel and Fleeson’s (2006) survey. They will also be required to complete a survey measuring the positive and negative affect associated with the activity, which will be used for statistical control purposes.

At this point, the fourth participant of each group will be moved to another group whereas participant one, two and three will remain (see Figure 5). Participant four will be given an intervention designed to increase their positive (negative) affective forecasting associated with the next activity. They will then be given the affective forecasting survey and asked to state their level of affect with regard to the second round activity. The second round will then begin. The second activity will be similar to, but not the same as, the first. At the end of the second round, the same post-activity surveys will be administered.

Figure 5: Study 3 experimental design. Participant 4 will be shifted to another group after round one. The total number of groups will be subject to participant availability.
## Appendix 6: Project Timeline

<table>
<thead>
<tr>
<th>Task</th>
<th>Quarter/Year</th>
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<tbody>
<tr>
<td>Submit PhD Application and Initial Proposal</td>
<td>Q3 - 2013</td>
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<tr>
<td>Conduct High-Level Literature Scan</td>
<td>Q4 - 2014</td>
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<tr>
<td>Complete Coursework: AIRS, BSN502</td>
<td>Q1 - 2014</td>
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<tr>
<td>Develop Revised Research Proposal (Stage Two)</td>
<td>Q2 - 2014</td>
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<tr>
<td>Methodology Development (inc. Instruments)</td>
<td>Q3 - 2014</td>
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<tr>
<td>Conduct Literature Review</td>
<td>Q4 - 2014</td>
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<td>Complete Coursework: BSN414</td>
<td>Q1 - 2015</td>
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<td>Write Literature Review Chapter</td>
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<td>Ethics Confirmation</td>
<td>Q3 - 2015</td>
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<td>Complete Coursework: BSN412</td>
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<td>Implementation and Analysis of Pilot Instrument(s)</td>
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<td>Write Methodology Chapter</td>
<td>Q2 - 2016</td>
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<tr>
<td>Complete Coursework: BSN503</td>
<td>Q3 - 2016</td>
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<tr>
<td>Develop and Submit Confirmation Document</td>
<td>Q4 - 2016</td>
</tr>
<tr>
<td>Revise Instrument(s)</td>
<td>Q1 - 2017</td>
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<tr>
<td>Implementation of Data Capture and Gathering Results</td>
<td>Q2 - 2017</td>
</tr>
<tr>
<td>Analysis of Results</td>
<td>Q3 - 2017</td>
</tr>
<tr>
<td>Write Analysis and Findings Chapter</td>
<td>Q4 - 2017</td>
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<tr>
<td>Write Discussion Chapter</td>
<td>Q1 - 2018</td>
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<td>Write Conclusion Chapter</td>
<td>Q2 - 2018</td>
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<td>Write Introduction Chapter</td>
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<td>Thesis Review</td>
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<td>Final Submission, Defense and Alterations</td>
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