

**The Empowering Role of the Belief in a Just World for the Self in Adaptive
Psychological Functioning**

Jonathan Bartholomaeus

School of Psychology
The University of Adelaide

A thesis submitted in fulfilment of the requirements for the degree Doctor of Philosophy

March 2021

Table of Contents

Table of Contents	i
List of Tables	vii
List of Figures	viii
Abstract	ix
Declaration	xi
Acknowledgements	xii
Funding	xiii
Overview	xiv
Chapter 1 Statement of Authorship.....	1
CHAPTER 1 The Adaptive, Approach-oriented Correlates of Belief in a Just World for the Self: A Review of the Research.....	2
1.1 Abstract.....	3
1.2 The Theory and Chronology of Belief in a Just World	4
1.2.1 Introduction.....	4
1.2.2 BJW Theorizing and the Development of BJW-self	5
1.3 The Approach-oriented, Adaptive Outcomes of BJW-self.....	12
1.3.1 BJW-self and Wellbeing	12
1.3.2 BJW-self and Coping.....	13
1.3.3 Prosocial Behaviour	15
1.3.4 Future Orientation and Achievement.....	18
1.3.5 The Explanatory Mechanisms of BJW-self	19
1.4 Future Directions	20
1.4.1 Establishing the Causal Effect of BJW-self.....	21
1.4.2 Avenues for Advancing BJW-self Theorizing.....	22

1.4.3 Conclusion	24
References.....	25
From the Review to Initial Exploration	38
Chapter 2 Statement of Authorship.....	39
CHAPTER 2 Using Structural Equation Modelling to Investigate the Empowering Effect of Belief in a Just World on Adaptive Psychological Functioning	40
Abstract.....	41
2.1 Introduction.....	42
2.1.1 Belief in a Just World	42
2.1.2 BJW-self is Imperative for Adaptive Psychological Functioning	44
2.1.3 The Functional Role of Power	45
2.1.4 Power as a Function of BJW-self.....	46
2.1.5 Adaptive Psychological Functioning	47
2.1.6 The Present Investigation.....	51
2.2 Method	54
2.2.1 Participants.....	54
2.2.2 Procedure	55
2.2.3 Measures	56
2.2.4 Statistical Analysis.....	60
2.3 Results.....	63
2.3.1 Sample 1.....	63
2.3.2 Sample 2.....	70
2.3.3 Subsample 3	71
2.4 Discussion.....	73
2.4.1 Overview of findings	73

2.4.2 Theoretical Implications	74
2.4.3 The Search for Meaning in Life.....	75
2.4.4 Significant Differences in Model Estimates Between Samples 1 and 2.....	75
2.4.5 Longitudinal Findings.....	76
2.4.6 Limitations	77
2.4.7 Future research.....	78
2.5 Conclusion	79
References.....	81
Broaching the Question of Causation	91
Chapter 3 Statement of Authorship.....	92

CHAPTER 3 Looking on the Bright Side: Belief in a Just World for the Self

Empowers More Positive and Less Negative Affect	93
Abstract.....	94
3.1 Introduction.....	95
3.1.1 Belief in a Just World	95
3.1.2 BJW-self and positive and negative affect.....	98
3.1.3 Empowerment	99
3.1.4 The Empowering Effects of the Belief in a Just World.....	100
3.1.5 Overview of studies	102
3.2 Study 1	103
3.2.1 Method	104
3.2.2 Results.....	106
3.3 Study 2	107
3.3.1 Method	108
3.3.2 Results.....	109

3.4 Study 3	110
3.4.1 Method	110
3.4.2 Results.....	112
3.5 General Discussion	114
3.5.1 Extending BJW Theory.....	115
3.5.2 The Manipulation of BJW-self in Study 3.....	116
3.5.3 Experimental Manipulations of BJW-self	118
3.5.4 Avenues for Future Research.....	120
3.6 Conclusion	122
References.....	123
Supplementary Material for Chapter 3	130
Study 1 Additional Analyses	132
Results.....	133
Study 3 Additional Analyses	138
Results.....	138
From the Laboratory to the Real World.....	142
Chapter 4 Statement of Authorship.....	143
CHAPTER 4 The Empowering Function of the Belief in a Just World for the Self on	
Mental Health: A Comparison of Prisoners and Non-prisoners.....	144
Acknowledgments.....	144
Abstract.....	145
4.1 Introduction.....	146
4.1.1 The Mental Health of Prisoners	146
4.1.2 Justice Motive Theory.....	147
4.1.3 The Role of BJW-self for Prisoners.....	149

4.1.4 The Present Study	149
4.2. Methods.....	150
4.2.1 Participants.....	150
4.2.2 Procedure	151
4.2.3 Measures	152
4.2.4 Statistical analysis.....	153
4.3 Results.....	154
4.4 Discussion.....	157
4.4.1 Theoretical Implications	157
4.4.2 Limitations	159
4.4.3 Future Research	159
4.5 Conclusion	160
References.....	161
CHAPTER 5 General Discussion	166
5.1 Summary of Findings.....	166
5.2 Theoretical Implications and Considerations.....	168
5.2.1 A Sense of Control and Empowerment	169
5.2.2 The Association Between Empowerment, Assimilation, Motivation, and Trust .	170
5.3 Methodological Implications	171
5.3.1 Longitudinal Research	172
5.3.2 Experimental Designs: Implicit Motivation vs Explicit Trait.....	173
5.3.3 Structural Equation Modelling.....	175
5.4 Strengths and Limitations	175
5.5 Future Research	177
5.5.1 The Self-serving Bias.....	178

5.5.2 Illusory Control.....	179
5.5.3 The Optimism Bias	180
5.5.4 The Role of BJW-self Threat.....	181
5.6 Conclusion	182
References.....	183
Appendix A: Chapter 2 Sample 1 Survey.....	187
Appendix B: Chapter 2 Sample 2 Survey	213
Appendix C: Chapter 2 Subsample 3 Survey	229
Appendix D: Chapter 3 Study 1 Material	241
Appendix E: Chapter 3 Study 2 Material.....	256
Appendix F: Chapter 3 Study 3 Material.....	265
Appendix G: Chapter 4 Non-prisoner Survey	279
Appendix H: Chapter 4 Prisoner Survey	290

List of Tables

Table 2.1 Reliability Estimates for Scales Used with the Three Samples	57
Table 2.2 Fit Indices for the Iterative Modification of the Measurement Model in Sample 1	64
Table 2.3 Item Loadings and Errors for the Structural Model fit with Samples 1 and 2.....	66
Table 2.4 Path Estimates, Indirect Effects, and Latent Factor Variances for the Structure Model fit with Samples 1 and 2	68
Table 3.1 Descriptive Information for Dependent Variables by Condition (Study 2).....	109
Table 3.2 Descriptive Information for Dependent Variables by Condition (Study 3).....	112
Table 3.3 Correlations Amongst Measured Variables (Study 3).....	112
Table S1 Study 1 Model Estimates and 95% CIs	130
Table S2 Study 1 Additional Analyses Model Estimates with 95% CIs	135
Table S3 Descriptive Information for Dependent Variables by Condition	140
Table S4 Correlations Amongst Measured Variables.....	140
Table 4.1 Direct, Indirect, and Covariance Standardised Estimates from the Path Analysis	155

List of Figures

Figure 2.1 Conceptual diagram of the hypothesised latent variable structural equation model.	52
Figure 2.2 The direct effects of T1 predictors on T2 outcomes.....	72
Figure 3.1 The influence of BJW-self on positive and negative affect through empowerment.	107
Figure 3.2 The indirect effect of condition on positive affect through empowerment.	113
Figure 3.3 The indirect effect of condition on negative affect through empowerment.	114
Figure S1 Latent structural equation model linking BJW-self to positive affect, negative affect, life satisfaction, optimism, and resilience through empowerment.	134
Figure S2 The indirect effect of condition on life satisfaction through empowerment.	141
Figure S3 The indirect effect of condition on optimism through empowerment.	141
Figure S4 The indirect effect of condition on resilience through empowerment.	141
Figure 4.1 Conceptual diagram of the path analysis.....	154

Abstract

The belief in a just world predicts a broad range of positive and negative behaviours, emotions, and cognitions. The belief in a just world for the self (BJW-self), more specifically, tends to be associated with positive and adaptive outcomes for the individual. While much research has been devoted to exploring the associations between BJW-self and a variety of outcomes, comparatively little attention has been paid to the mechanism by which BJW-self promotes these positive outcomes. A review of the literature, in particular the central theoretical tenets of justice motive theory, reveals that the functioning of just world beliefs is closely associated with a sense of control over one's current and future life circumstances; BJW-self is theoretically a source of empowerment in everyday life. Thus, the central aim of this thesis was to explore the role of empowerment as the mechanism by which BJW-self facilitates adaptive psychological functioning.

To this end I conducted five studies consisting of eight independent samples in order to provide empirical insights from multiple angles on the functional role of empowerment. Following the introductory chapter reviewing the extant literature on BJW-self, Chapter 2 outlines a study employing latent variable structural equation modelling with two cross-sectional samples and one longitudinal sample to investigate the associations between BJW-self, a sense of empowerment, and adaptive psychological functioning, represented by the indices of life satisfaction, meaning in life, optimism, resilience, depression, anxiety, and stress. In an attempt to answer the complex question of causation Chapter 3 reports on three studies in which I establish the causal associations between BJW-self, empowerment, and positive and negative affect. Chapter 4 reports on an applied study exploring whether the empowering function of BJW-self operates similarly for prisoners and non-prisoners.

Taken together, these studies suggest that BJW-self is associated with adaptive psychological functioning via a process of empowerment. In the two cross-sectional samples

(Chapter 2) BJW-self was positively associated, through empowerment, with indices of life satisfaction, the presence of meaning in life, optimism, and resilience, and negatively associated with depression, anxiety, and stress. It was unrelated to the search for meaning in life. Over a one-year period, BJW-self seems to be unrelated to empowerment.

Methodological limitations, however, may explain this finding. Experimental evidence (Chapter 3) suggests that BJW-self causes a sense of empowerment, which in turn causes increases in positive affect, and decreases in negative affect. Finally, findings from the applied study (Chapter 4) indicate that BJW-self functions to empower adaptive outcomes in a similar way for prisoners and non-prisoners alike. Seemingly, one's objective life circumstances do not hamper the adaptive utility of BJW-self. This thesis closes with a general discussion of how it has made a new contribution to knowledge. Specifically, I discuss theoretical and methodological contributions to the study of justice motive theory, highlight the strengths and limitations of the work, and expound upon important considerations for future research.

Declaration

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

I acknowledge that copyright of published works contained within this thesis resides with the copyright holder(s) of those works. I also give permission for the digital version of my thesis to be made available on the web, via the University's digital research repository, the Library Search and also through web search engines, unless permission has been granted by the University to restrict access for a period of time. I acknowledge the support I have received for my research through the provision of an Australian Government Research Training Program Scholarship.

Signed: _____

|

Date: 9/3/2021

Acknowledgements

Completing this thesis would not have been possible if not for efforts and support of many people. It takes a village to complete a PhD.

I am indebted to my primary supervisor, Peter Strelan, for his guidance and meticulous and infuriating attention to detail. He has not only trained me to be a fastidious researcher but also taught me much about navigating the ups and downs of career and life. My warm and grateful thanks to Nicholas Burns, my secondary supervisor, for his sage wisdom in all things pertaining to structures, equations, and models. To my former secondary supervisor, Aaron Jarden, for his encouragement, quirkiness, and all-round sunny disposition. This crazy venture was, in part, his fault—I am grateful.

For their friendship, insight, and nous, I thank friends and colleagues Kate, Matthew K, Neophytos, Hugh, Joep, and Matthew I. Exploring new ideas, the deep discussions, and the nuggets of insight continually spurred me on. I am grateful, too, for the love and support of my family: Tony and Sonja, Amy and Lukas (Alfie and Oscar too), Mike and Sharee (and now Jack), Wally and Linda, James and Svet, Alec, and Larissa. Without these people I would not be in a place to undertake this level of study.

Finally, to Ness, my rock and my home, who has taken on more than her fair share over the past few years and never stopped listening. I am blessed to have such a wonderful companion in this life. Above all, to my Lord and Saviour, for creating people and allowing me the joy of attempting to understand them.

Funding

Throughout my studies I have received financial support through the Australian Government's Research Training Program. Additionally, I was provided a top-up scholarship by Statewide Super. This generous support enabled me to purchase resources and recruit participants, which made the research process throughout my studies considerably easier. Additionally, I would like to thank the School of Psychology and the South Australian Health and Medical Research Institute's Wellbeing and Resilience Centre for their contribution towards resources, travel, and conferences fees throughout my candidature.

Overview

This thesis begins with a review of the literature which covers in detail the relevant history of BJW scholarship, outlines justice motive theory, and reports on the numerous findings around BJW-self. Chapter 2 outlines my first study in which I explore the associations between BJW-self, empowerment, life satisfaction, meaning in life (presence and search), optimism, resilience, depression, anxiety, and stress in two cross-sectional and one longitudinal sample. Turning to the question of causal direction, Chapter 3 covers a series of three studies (two of which use experimental designs) on the relations between BJW-self, empowerment, and positive and negative affect. In Chapter 4 I report the findings of a study in which the empowering function of BJW-self is compared between a sample of prisoners and non-prisoners. Finally, in the discussion chapter (Chapter 5) I summarise my findings, discuss the theoretical and methodological implications of my work, cover both the strengths and weaknesses of this collection of studies, and outline my thoughts on the important aspects of this work for future research. As each chapter has been written as a stand-alone paper all references are included at the end of each chapter.

Chapter 1 Statement of Authorship

Title of Paper	The Adaptive, Approach-oriented Correlates of Belief in a Just World for the Self: A Review of the Research
Publication Status	<input checked="" type="checkbox"/> Published <input type="checkbox"/> Accepted for Publication <input type="checkbox"/> Submitted for Publication <input type="checkbox"/> Unpublished and submitted work written in manuscript style
Publication Details	Bartholomaeus, J., & Strelan, P. (2019). The adaptive, approach-oriented correlates of belief in a just world for the self: A review of the research. <i>Personality and Individual Differences</i> , 151. doi:10.1016/j.paid.2019.06.028

Principle Author

Name of Principal Author	Jonathan Bartholomaeus
Contribution to the Paper	Paper concept and design, systematic search of the literature, literature review, writing manuscript.
Overall percentage (%)	80%
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.
Signature	Date: 9/3/2021

Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

- i. the candidate's stated contribution to the publication is accurate (as detailed above);
- ii. permission is granted for the candidate to include the publication in the thesis; and
- iii. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

Name of Co-Author	Peter Strelan
Contribution to the Paper	Principal supervision, advice about the paper concept and design, manuscript proofreading.
Signature	Date:

CHAPTER 1

The Adaptive, Approach-oriented Correlates of Belief in a Just World for the Self:

A Review of the Research

Jonathan Bartholomaeus^{1,2}, Peter Strelan¹

1. Faculty of Health and Medical Sciences, The University of Adelaide
North Terrace, Adelaide, 5005 SA Australia
2. The South Australian Health and Medical Research Institute, Wellbeing and Resilience Centre
North Terrace, Adelaide, 5000 SA Australia

1.1 Abstract

Over the past 50+ years researchers have dedicated considerable effort towards studying the belief in a just world (BJW). A significant development in the field was the introduction of the bidimensional model, which indicates differential outcomes for the belief in a just world for the self (BJW-self) when contrasted with the belief in a just world for others (BJW-general). Theorizing and research on BJW-general is well-established. However, the distinction between the two spheres, and specifically the unique characteristics and correlates of BJW-self, are not yet widely acknowledged by researchers. Therefore, we present a review of the BJW-self literature, in three parts. First, we outline the fundamental tenants of justice motive theory and the chronology of BJW-self measurement. Second, we discuss the notable relationships that have emerged from this literature, in particular the links between BJW-self and wellbeing, coping with negative life events, prosocial behaviours, and a positive future orientation. Finally, we suggest avenues for future research and theoretical advance.

Keywords: Belief in a just world; BJW; justice beliefs; BJW-self; personal BJW; positive outcomes

1.2 The Theory and Chronology of Belief in a Just World

1.2.1 Introduction

Justice motive theory is one of the most ubiquitous theories of justice within the social sciences. Over the last 50-odd years it has been studied in a wide array of contexts resulting in the emergence of two distinct fields of research. One is an experimental literature which primarily investigates how people respond to threats to their just world (see Ellard et al., 2016; Hafer & Bègue, 2005 for review). The other is an individual differences literature that examines the consequences of individual variation in the belief in a just world (see Dalbert, 2009; Dalbert & Donat, 2015; Furnham 2003; Hafer & Sutton, 2016 for review). A major development within the individual differences tradition was marking the distinction between a belief in a just world for the self (BJW-self¹) and a belief in a just world in general (BJW-general²; Dalbert, 1999; Lipkus et al., 1996). As we will see, the two spheres are associated with strikingly different outcomes—yet it is still not standard practice among researchers to empirically distinguish between them. Further, while there are excellent recent reviews of just world theorizing, they tend to overlook the distinction with BJW-general (Furnham, 2003) or their coverage of the outcomes explicitly associated with BJW-self is disproportionately brief (Hafer & Sutton, 2016) or now requires updating (Dalbert & Donat, 2015). Thus, a more comprehensive review of research relating specifically to BJW-self is needed.

In preparing this review we conducted a systematic search of five prominent databases (Embase, PsycINFO, PubMed, Scopus, and Sociological Abstracts) for articles containing the words ‘just world’ or ‘justice beliefs’ and ‘self’ or ‘personal’ or ‘individual differences’. The searches were constrained to English language book chapters and peer-

¹ Belief in a just world for the self is commonly referred to as Personal BJW when Dalbert’s (1999) scale is used, but as BJW-self when the Lipkus et al.’s (1996) scale is used. For the sake of consistency, we will refer to all justice beliefs about the self as BJW-self.

² In this review BJW-general will refer to all measures of global/general just world beliefs, while BJW-others will refer specifically to construct measured by the Lipkus et al.’s (1996) BJW-others scale.

reviewed articles with no constraint on year of publication. This search strategy yielded a result of 58 book chapters and 628 peer-reviewed articles. To be included in this review, chapters or articles had to include an independent measure and analysis of BJW-self. Sixteen book chapters and 180 articles met these criteria. These texts formed the basis for this review.

To provide the reader with context, we first clarify how BJW-self fits within the broader BJW theoretical framework and provide a brief chronology of how measurement of BJW-self has developed. We then present an illustrative review of the various outcomes associated with BJW-self and suggest opportunities for future research and theoretical development.

1.2.2 BJW Theorizing and the Development of BJW-self

1.2.2.1 Justice motive theory

In 1966, Lerner and Simmons reported the peculiar results of an experiment on people's reactions to the suffering of others. In the experiment participants viewed a young woman performing a difficult learning task. When she made a mistake, which was often, she appeared to receive a painful electric shock disproportionate to the mistake made. When the researcher made it clear that the participants could not stop the woman from receiving the shocks, and that the painful learning task would continue in a second session, the participants' typical responses were surprising. They rejected and devalued the woman. These findings sparked the development of, and research into, the just world hypothesis.

The just world hypothesis (also referred to as "the belief in a just world" or BJW) states that (a) individuals need to believe in a world where people generally get what they deserve; (b) this belief enables them to confront the world as if it were a stable and orderly place; and (c) because this belief serves such an adaptive function, contrary evidence is highly disruptive, and therefore people are highly motivated to take measures to ensure that their belief is maintained (Lerner & Miller, 1978).

BJW theorizing provides an explanation for participants' reactions in Lerner and Simmons's (1966) experiment. The participants encountered a young woman suffering pain. Because they were unable to alleviate her suffering, they needed to rationalize it instead. They could either accept that she was innocent and was receiving underserved suffering (the world is unjust) or presume she had done something to deserve her suffering (the world is just). Because it is usually beneficial to believe in a just world, participants were motivated to maintain their BJW and thus opted for the second option: they assumed the woman somehow deserved her suffering because of her (presumed) bad character or something she had done.

The derogation and victim-blaming observed by Lerner and Simmons reflects the harsh social responding that is the hallmark of BJW-general, whether it is explicitly measured (for a review see Hafer & Sutton, 2016), or presumably triggered when participants consider *another person's* misfortune or misdeed within experimental designs (for reviews see Ellard et al., 2016; Hafer & Bègue, 2005). The majority of research on BJW has been concerned with how individuals react to others' injustices—in other words, how BJW-general operates. There is much less awareness, however, of the outcomes associated with believing in a just world for the self. It is to that sphere of just world beliefs that we now focus our attention.

1.2.2.2 The measurement of BJW-self

Lerner (1980) recognized that individuals can partition their spheres of justice—justice for the self and justice for others. People can protect their BJW by separating their own world from the world of the victim; when observing the suffering of an innocent other, observers can psychologically place them in a separate world. With this rationalisation observers remove themselves from the proximity of the victim and protect their belief that the world they inhabit is just. This idea was first tested by Aderman et al. (1974). Using the original Lerner and Simmons (1966) experimental design, they instructed participants to not only observe the victim, but to also imagine themselves in the victim's situation. Participants

given this instruction did not derogate the victim but rated her as more attractive than themselves.

Initially BJW was studied exclusively in experimental settings. This was due to two theoretical assertions. First, BJW is a fundamental delusion residing pre-consciously in all people. Second, any conscious processing of BJW would render it vulnerable to manipulation by social norms and the concern for positive self-presentation (Lerner, 1980). As a result, highly emotive experimental manipulations, such as seeing a young woman apparently receive repeated painful electric shocks, were used to study the instinctive reactions of participants (for reviews see Ellard et al., 2016; Hafer & Bègue, 2005).

However, during the early 1970s a second school of thought developed. Rubin and Peplau (1973, 1975) noted that in the traditional innocent victim experiment (Lerner & Simmons, 1966) not all participants responded by degrading the victim. From this observation they stated that “there are undoubtedly situational as well as individual variations in peoples’ perceptions of justice” (Rubin & Peplau, 1975, p. 68). As a result, they developed the first self-report individual differences measure of the BJW. Initial evidence suggested that the Just World Scale (JWS) did indeed measure the BJW; higher scores were correlated with increased resentment of innocent victims (Rubin & Peplau, 1973). The JWS became the most widely used measure of the BJW and, despite its poor psychometric properties (Furnham & Procter, 1989), remains the most popular measure of BJW today (Hafer & Sutton, 2016).

Calhoun and Cann (1994) took the first step in researching BJW-self as an individual differences variable. In their study, participants filled out the original JWS and an altered version where all instances of third-person pronouns were replaced with first-person pronouns. They found that participants saw their own world as more just and expected it to be more benevolent and less random than the world in general. Further, participants consistently reported higher scores on the self-focused JWS compared to the general JWS.

The Multidimensional Just World Beliefs Scale was the first to formally measure BJW in the self/personal domain (Furnham & Procter, 1989). However, due to its poor psychometric properties and unsubstantiated factor structure the scale was not widely adopted (Lipkus, 1991; Hafer & Sutton, 2016). In 1996, Lipkus and his colleagues published their measures of BJW-self and BJW-others, which reflect what has been termed the bidimensional model of BJW (Bègue & Bastounis, 2003). They found that BJW-self, over and above BJW-others, was associated with higher levels of life satisfaction and lower levels of depression and stress. Participants high in BJW-self were also less neurotic and more emotionally stable, extraverted, and open. Further, BJW-self was able to predict life satisfaction even when accounting for the Big Five personality traits and, similar to the findings of Calhoun and Cann (1994), participants reported a stronger BJW-self over BJW-others. This work by Lipkus and his colleagues marked the beginning of research interest into the positive adaptive outcomes of a BJW, which until this time had been almost exclusively focused on the negative behavioural and attitudinal products of just world beliefs about others.

In 1999, Dalbert published the Personal Belief in a Just World Scale. She showed that BJW-self was uniquely associated with mood level, life satisfaction, and self-esteem when measured against a general BJW (using the General Belief in a Just World Scale; Dalbert et al., 1987). Again, participants reported a stronger BJW-self compared to BJW-general. This study further established the validity of the BJW-self construct; gave extended clarity to the demarcation between BJW-self and BJW-general; and provided the research community with, what is now, one of the most widely used measures of BJW-self.

Empirically, the bidimensional model of BJW is borne out. Sutton and Douglas (2005) show that BJW-self and BJW-general are two parallel forms of BJW, which are moderately correlated (Dalbert, 1999; Lipkus et al., 1996; Sutton et al., 2008). Factor analysis

shows BJW-self and BJW-general to be two unique factors (Fox et al., 2010; Sutton & Douglas, 2005; Sutton & Winnard, 2007) and longitudinal research has revealed a distinction between them over time (Johnston et al., 2016). BJW-self is consistently endorsed more strongly than BJW-general (Bègue & Bastounis, 2003; Dalbert, 1999; Hafer & Sutton, 2016; Lipkus et al., 1996; Sutton & Douglas, 2005; Sutton et al., 2008). In relation to the five-factor model of personality, both BJW-self and BJW-general correlate positively with Extraversion and Agreeableness, and negatively with Neuroticism. However, BJW-self shows stronger correlations with all three traits (Nudelman, 2013). Further, research suggests that an expression of BJW-self is socially approved of whereas this is not always the case for BJW-general (see Alves et al., 2018 for a brief review).

1.2.2.3 BJW-self and the personal contract

BJW has been described as a fundamental delusion (Lerner, 1980), a motive or need (see Ellard et al., 2016) and, in the case of BJW-self in particular, a positive illusion (Dalbert, 1999). Inherent in these different conceptualizations is the idea that there is something psychologically reassuring about believing in a just world—even if individuals can, at the same time, intellectualize that for many of this earth’s inhabitants the world is clearly not just (for a discussion, see Hafer & Sutton, 2016). But regardless of the extent to which BJW reflects reality, and as implied in our earlier discussion of the Lerner and Simmons’ (1966) findings, a notable aspect of BJW is that it is grounded in the principle of deserving and what Lerner (1980) termed ‘the personal contract’.

The principle of deserving is established in childhood as one learns to deny immediate pleasure in order to earn greater long-term rewards. To illustrate, consider a student who spends time working on an assignment rather than playing outside with his friends. He denies his immediate desire and invests in his future. Once the assignment is submitted, he feels that he deserves to be rewarded for his effort. When he is awarded a good grade, the principle of

deserving is reinforced. Through many such experiences the principle of deserving is concretized into an implicit personal contract. In this contract the child agrees that, in order to get what he wants in life, he must forgo the short-term gratification of his desires and invest in the future (Lerner et al., 1976). This personal contract allows the child to earn rewards and interact with his world as if it were predictable. Further, because of the contract, the child feels in control and is now motivated to believe that the world is just.

Dalbert (1999) extended the idea of the personal contract, arguing that, to the extent that individuals expect to be treated fairly and decently by the world, they must treat others decently and fairly in return. As we will see shortly, the implicit requirement to act reasonably has further implications for how BJW-self is manifested.

A crucial implication of the personal contract is that it affords individuals a sense of control (see Lerner, 1980). Such perceived control emerges because individuals have internalized the contingency between inputs and outputs. For example, it is reassuring to be able to predict how events will unfold given particular conditions (e.g., ‘if I work hard, I will be rewarded’). Consequently, individuals are able to proceed through life confident in the expectation that they will be treated fairly. The idea that a belief in a just world affords a sense of control has always been central to BJW theorizing, regardless of the self or general sphere (e.g., Lerner & Miller, 1978). For example, when one’s BJW-general hat is on, blaming victims restores a just world and therefore a sense that the world is still predictable, and stable, and controllable. However, the notion of control is especially relevant for understanding the outcomes associated with BJW-self since, by definition, BJW-self is concerned with an individual’s own world and personal experiences. In the next section we explicate the processes by which BJW-self functions to help provide a sense of control.

1.2.2.4 Functions of BJW-self

Dalbert (2001) suggests that BJW acts as a personal resource for everyday life fostering “adaptive reactions and the maintenance of wellbeing” (p. viii). BJW achieves this goal, as well as that of control, through three functions referred to as assimilation, motive, and trust (see Dalbert & Donat, 2015 for review).

The assimilation function of BJW-self helps people to ascribe meaning to injustices by placing the event within their just world framework. When people believe the world is just for themselves, they can cope with hardships by finding meaning in their suffering, by downplaying or rationalizing it (Dalbert, 2001), or by perceiving their treatment by others as just (Dalbert & Filke, 2007; Dalbert & Stoeber, 2005). To illustrate, picture a student who receives a bad mark on her assignment. Having a strong BJW-self, she may assimilate the perceived injustice by reasoning, “I must have handed in bad work, the bad mark is not an injustice but a reflection of the quality of my work, the world remains a just place”, or she might ascribe a different meaning to the mark by downplaying it: “this mark is not so bad; the world is still a fair place”.

The motive function of BJW-self compels people to act morally and justly in their everyday lives in order to maintain a just world. When the just world focus is on the self, people strive to achieve their goals using just means (Alt, 2014), to avoid delinquent behaviour (Donat et al., 2014), and to behave in a prosocial manner (Bartholomaeus & Strelan, 2016; Bègue, 2014; Sutton et al., 2017).

The trust function of BJW-self enables people to be confident that, because the world is a fair place, they will get what they deserve. BJW-self leads the individual to trust that their personal contract will be honoured. Therefore, BJW-self is related to people expecting just rewards for their efforts (Correia & Dalbert, 2007), and having confidence to invest in long-term goals (Hafer, 2000; Sutton & Winnard, 2007).

1.3 The Approach-oriented, Adaptive Outcomes of BJW-self

In his review, Furnham (2003) identified a shift in the literature away from focusing on the negative aspects of BJW (typically, BJW-general) towards viewing it as a beneficial personal resource and coping mechanism (BJW-self). The past 15 years or so have seen an increase in research on the network of adaptive outcomes associated with BJW-self. We elaborate on these relations in the following sections.

1.3.1 BJW-self and Wellbeing

A stronger endorsement of BJW-self, but not BJW-general, tends to be associated with higher levels of wellbeing (Dalbert, 1999; Lipkus et al., 1996; Sutton & Douglas, 2005). Specifically, increased BJW-self is correlated with increased psychological wellbeing, positive affect (Sutton et al., 2017), and satisfaction with life (Sutton & Douglas, 2005), as well as decreased negative affect (Dalbert & Dzuka, 2004) and depressive symptoms (Kamble & Dalbert, 2012). Additionally, BJW-self uniquely predicts subjective wellbeing beyond the influence of Extraversion and Neuroticism (Dalbert & Dzuka, 2004; Donat et al., 2016; Otto et al., 2009, Study 3).

BJW-self promotes wellbeing for people across the life span. For students, BJW-self, independent of BJW-general, is related to increased life satisfaction and positive affect (Dalbert & Dzuka, 2004). Further, it is related to less distress at school (Dalbert & Stoeber, 2005), more positive attitudes towards school, higher academic self-esteem, and enjoyment of school (Donat et al., 2016). BJW-self promotes wellbeing for university students (Correia et al., 2009) and working age adults (Otto et al., 2009) alike. For older adults living in aged-care, Dzuka and Dalbert (2006) found a positive relationship between BJW-self and wellbeing. Further, BJW-self is associated with increased overall quality of life and decreased symptoms of severe depression for older adults (Carifio & Nasser, 2012; Nasser et

al., 2011). One longitudinal study with older adults found that BJW-self uniquely predicted reduced mortality risk (Fry & Deaton, 2011).

Longitudinal findings on the causal effect of BJW-self on wellbeing are mixed. One study with working adults found that BJW-self predicted life satisfaction 6–9 months later, even when accounting for the Big Five personality traits (Otto et al., 2009, Study 3). Another longitudinal study, however, found that BJW-self only exerts influence on wellbeing through the mediating variable of just family climate, which is the belief that one receives just and fair treatment by one's parents in the home environment (Dalbert & Stoeberl, 2006). A single experimental study suggests a bi-directional relationship between BJW-self and life satisfaction (Correia et al., 2009). However, no causal effect, in either direction, was detected between BJW-self and positive affect.

1.3.2 BJW-self and Coping

Perceiving the world as just for one's self is especially important when enduring hardships. In these times BJW-self acts, through the assimilation function, as a resource, buffering wellbeing and helping the individual to cope. Across the literature, this topic continues to draw considerable and sustained research attention, more so than any other in this review.

1.3.2.1 Victims of disasters

Studies with the victims of natural disasters reveal how BJW-self can act as a resource for coping in the face of devastating events. In a survey of German flood victims BJW-self, but not BJW-general, was associated with less anxiety, depression, and psychological distress (Otto et al., 2006). This relationship persisted when controlling for substantial stressors and losses caused by the flood. Commensurately, Turkish earthquake survivors who reported a stronger BJW-self, but not BJW-other, also reported higher levels of life satisfaction (Şeker, 2016). In a sample of 2008 Sichuan earthquake victims, Wu et al.,

(2011) found that both BJW-self and BJW-general predicted higher life satisfaction. A second study with the victims found that BJW-self was the most important predictor of psychological health; showing negative associations with depression and anxiety, and a positive association with hope (Xie et al., 2011). Finally, longitudinal research shows that people with stronger BJW-self reported being less affected by the 2008 financial crisis (Christandl, 2013).

1.3.2.2 Prolonged negative life circumstances

A number of studies show the value of BJW-self as a resource for coping with persistent negative life circumstances. Dzuka and Dalbert (2002) found that unemployed Slovakian adolescents with a strong BJW-self were more satisfied with life, had more positive affect, and better self-esteem regardless of their BJW-general. In a three-year longitudinal study of job-seekers, BJW-self was found to be the most important predictor of subjective wellbeing, causing lower depressive mood and higher anticipated workplace fairness (Sallay, 2004). Further, Otto and her colleagues (2009) found that, for both employed and unemployed participants, baseline BJW-self was positively associated with mental health, self-esteem, life-satisfaction, and job satisfaction nine months later. For those in high-pressure work environments or with low job security, BJW-self is associated with reduced psychological distress (Horvath & Massey, 2018) and better coping with threats to career prospects (Nudelman et al., 2016).

Victims of bullying or violence are in need of coping resources. Student victims of bullying with a strong BJW-self have reported higher subjective wellbeing than those with a weaker BJW-self (Dzuka & Dalbert, 2007a). Likewise, teachers who were victims of student violence experienced less negative affect when endorsing BJW-self (Dzuka & Dalbert, 2007b). For victims of more serious crimes, such as sexual assault, BJW-self has also been linked to adaptive coping (Fetchenhauer et al., 2005).

1.3.2.3 Physical and mental illness

BJW-self promotes coping for people suffering from physical and mental illnesses. Cancer patients with a strong BJW-self have reported less depression, more positive overall mood levels, and more trust in their partner (Dalbert, 2001). Notably, those diagnosed with cancer over five years beforehand more strongly endorsed the BJW-self, indicating that prolonged suffering does not necessarily negatively impact BJW-self. BJW-self is associated with less depression for people suffering from chronic pain (McParland et al., 2015); it also predicts lower pain intensity, less daily experiences of disability, and less psychological distress for people with arthritis or fibromyalgia (McParland & Knussen, 2016). BJW-self correlates with increase life satisfaction and better mood for those living with HIV/AIDS (Duggi et al., 2018).

In terms of mental illness, BJW-self is related to a number of benefits. Psychiatric patients with stronger BJW-self report less depression, less paranoid thinking, and higher life satisfaction; conversely, BJW-general was inversely related to these outcomes (Valiente et al., 2010). For average young adults and patients diagnosed with Schizophrenia Spectrum Disorder BJW-self, but not BJW-general, was significantly negatively related to paranoia (Wickham & Bentall, 2016; Wickham et al., 2014).

1.3.3 Prosocial Behaviour

As discussed, people with high BJW-self trust in being treated fairly by others and are motivated to act justly (Dalbert, 2001). Accordingly, BJW-self encourages prosocial behaviour and discourages delinquent behaviour. Meta-analysis shows that, at a trait level, BJW-self is positively correlated with Agreeableness, which reflects the qualities of altruism, compliance, and trust (Nudelman, 2013). Similarly, BJW-self is associated with trait gratitude (Strelan, 2007). At a motivational level, BJW-self, but not BJW-others, is related to social goals that require the suspension of immediate self-interest. Specifically, it shows

associations with a desire to learn more about others, to talk about feelings, and to make others feel better (Sutton et al., 2017), and the human motivational values of benevolence (Strelan & McKee, 2014).

BJW-self is related to prosocial outcomes across a number of social spheres. In organisations, employees with a stronger BJW-self are more likely to engaged in extracurricular activities that benefit the organisation (Spence et al., 2011). For volunteers, BJW-self, but not BJW-general, covaries with helping attitudes (Correia et al., 2017) and positive attitudes towards refugees (Khera et al., 2014). BJW-self is also associated with empathic concern for victims of sex trafficking, which, in turn, predicts proactive behaviour to help those victims (Silver et al., 2015).

BJW-self also promotes altruistic acts. In a sample of French adults, where half had just made a voluntary donation to a street beggar, and the other half had not, BJW-self was positively associated with donating; BJW-other was not (Bègue et al., 2008). In a related study, participants, after filling out a measure of BJW-self, were given the opportunity to donate to charity. Again, BJW-self predicted donating behaviour (Bègue, 2014).

The archetypal prosocial act, interpersonal forgiveness, is associated with BJW-self. BJW-self, but not BJW-others, positively predicts forgiveness of the self and of others. It is also negatively related to seeking revenge, the absence of rumination and impulsivity, and an increased sense of gratitude and self-esteem (see Strelan, 2018 for review). For the transgressor (the one perpetrating the act in need of forgiveness), higher BJW-self has been linked with a decreased likelihood of justifying the transgression (Strelan & Van Prooijen, 2014). Within romantic relationships, BJW-self has been found to impact forgiveness via the endorsement of growth beliefs (the belief that a relationship can grow over time and will benefit from overcoming hardships), but not destiny beliefs (the belief that relationship partners are either compatible or not, thus taking relational hardship as a sign of

incompatibility; Bartholomaeus & Strelan, 2016). This study indicates that BJW-self is associated with world views that encourage prosocial and future-orientated action, thus shedding light on one possible mechanism by which BJW-self might influence adaptive functioning.

1.3.3.1 Antisocial and deviant behaviour

Just as BJW-self is associated with an increased desire to engage in prosocial behaviour, it is also linked with decreased antisocial and deviant behaviours. Individuals with high BJW-self are better equipped to handle anger-evoking situations (Dalbert, 2002) and are less likely to respond aggressively in frustrating situations (Bègue & Muller, 2006). For male prisoners, BJW-self negatively correlated with a tendency to overtly express anger, even after controlling for the effects of criminal history (Dalbert & Filke, 2007; Otto & Dalbert, 2005). In a sample of South Korean adults, BJW-self has been associated with lower levels of Hwa-Byung—a culturally bound anger disorder (Kim & Kim, 2017).

In terms of deviant behaviour, students who endorse the BJW-self are less likely to bully others (Correia & Dalbert, 2008; Donat et al., 2016), engage in, or justify, academic cheating (Alt, 2014; Donat et al., 2014), or have unexplained absences from school (Donat et al., 2018). Across German and Indian samples, school-aged adolescents with higher BJW-self were also less likely to engage in more extreme forms of delinquency, such as stealing, illegal drug use, and public destruction of property (Donat et al., 2014). BJW-self is also related to better perceptions of legal authorities (Thomas & Mucherah, 2018) and lower intentions to engage in criminal behaviour (Sutton & Winnard, 2007). BJW-self, but not BJW-general, measured at age 15 also predicted trust in politicians at age 17 (Umemura & Šerek, 2016). Further, experimental evidence shows that when justice for the self is made salient, people show lower intentions to engage in future bribery behaviour (Bai et al., 2016).

1.3.4 Future Orientation and Achievement

People with a strong BJW-self tend to have a positive outlook on their future and, as a result, they also tend to achieve in their academic, work, and life pursuits. These outcomes may be attributed to the trust function, where BJW-self gives rise to feelings of trust in the justice of one's fate.

BJW-self is associated with a positive outlook across a variety of contexts and populations. For victims of natural disasters, an association has been found between BJW-self, experiencing less uncertain feelings, and having more hope (Şeker, 2016; Xie et al., 2011). People with a strong sense of BJW-self and social self-efficacy think it more likely they will experience success in achieving their social goals (Dette et al., 2004). Experimental evidence shows that BJW-self is associated with an optimistic outlook on career prospects. It is also positively correlated with students' expectations about the ease with which they will secure a job and their ability to stay in that job long-term (Nudelman et al., 2016). For young adults living in government accommodation, with behavioural problems, disruptive family backgrounds, and financial issues, BJW-self, but not BJW-others, is associated with the motivation to pursue legitimate life goals, as opposed to illegal goals (Sutton & Winnard, 2007). A similar finding was reported with young male prisoners; those with a strong BJW-self reported more confidence in achieving legitimate personal goals (Otto & Dalbert, 2005). Finally, longitudinal data indicates that participants with a stronger BJW-self over-estimate their sense of life satisfaction in the future, whereas participants lower in BJW-self make more pessimistic predictions (Christandl, 2013).

BJW-self is correlated with the tendency to perform well in life pursuits. Because people with a stronger BJW-self trust in being treated fairly, they tend to view stressful tasks as challenges that can be overcome rather than as insurmountable threats (Dalbert, 2001). Students' BJW-self correlates with higher school grades (Dalbert, 2001, p. 12; Peter et al.,

2012). Longitudinally, Dalbert and Stoeber (2006) found that baseline BJW-self predicted school grades over a period of 5–8 months. Across three studies with school and university students, BJW-self, over BJW-general, showed unique associations with students' judgements of the fairness of their grades, peers, and teachers (Correia & Dalbert, 2007). In the work environment, individuals with strong BJW-self have better perceptions of their work performance (Otto & Schmidt, 2007), and rate themselves as more likely to cope with workplace stress (Otto et al., 2009).

1.3.5 The Explanatory Mechanisms of BJW-self

Recently, there have been an increasing number of studies investigating the mechanisms that mediate relations between BJW-self and the various adaptive, approach-orientated constructs covered throughout this review. The growing number of mediation studies signifies the growing awareness of the importance of investigating how and why BJW-self functions as a personal resource.

Dalbert and her colleagues have mounted a substantial campaign investigating the role of teacher justice (the extent to which one feels justly treated by one's teacher; see Ucar & Dalbert, 2018, for the most recent work) as mediating the link between BJW-self and a variety of positive outcomes for school students. Their program has established that students with a stronger BJW-self are more likely to interpret their treatment by their teacher as just and therefore report increased wellbeing, academic achievement, and less bullying tendencies (see Donat et al., 2016 for a brief review). This research indicates that the stronger a person's BJW-self the more likely they are to interpret their treatment and events in their lives as just, which in turn is associated with adaptive outcomes (Dalbert & Donat, 2015). This body of work has established but one explanatory mechanism by which BJW-self leads to adaptive functioning.

Other investigations of the explanatory ingredients in relations between BJW-self and outcomes have been less systematic. Various researchers have noted the importance of factors such as gratitude (Strelan, 2007), self-transcending values (Strelan & McKee, 2014), realistic goal setting (Sutton & Winnard, 2007), empathy (Silver et al., 2015), and self-blame (Kim & Kim, 2017) as playing mediating roles between BJW-self and a range of prosocial and adaptive outcomes.

1.4 Future Directions

Like many fields in psychology, BJW-self has been studied predominantly with university students, nevertheless, there have also been a number of studies with populations over the life course. A number of studies have investigated BJW-self with school students aged 12 to 21 years (see Donat et al., 2016). To a lesser extent, studies have also been run with working adults (Otto et al., 2009) and older adults (Carifio & Nasser, 2012). To our knowledge there has only been one study investigating BJW-self in younger children (Tian et al., 2018). Apart from initial experimental work on the development of justice beliefs, BJW development has been largely left untouched, especially within the individual differences context. Researching justice concepts with younger children will present challenges, such as accurately measuring the abstract notion of justice beliefs. Research in this area is nonetheless important to pursue in order to understand how and when the personal contract is formed, the development of the justice motive, and the transformation of immanent justice beliefs to BJW (Dalbert, 2001; Lerner et al., 1976). Notably, in the context of the present review, work is required on how and when beliefs about justice for others and the self diverge (see Oppenheimer, 2006 for initial work).

Further, we have identified two trends in the literature that may hinder future research. First, a number of studies (not reported in this review) combine the measures of BJW-self and BJW-general into a single BJW score. Given the difference between the two

beliefs outlined here, we encourage all future research to treat BJW-self and BJW-general as separate constructs and to generate hypotheses, and analyse subsequent data, accordingly.

Second, a number of studies only measure BJW-self and assume this as representative of the broader BJW construct. Again, we would caution against this practice because of the robust evidence showing that BJW-self and BJW-general are two separate but related constructs, reliably associated with divergent outcomes.

1.4.1 Establishing the Causal Effect of BJW-self

Theory suggests that BJW-self has a causal effect on outcomes (Dalbert, 2001; Lerner, 1980). However, the causal influence of BJW-self has received relatively little research attention. Indeed, cross-sectional studies using correlational analysis have been the most commonly used research designs to examine BJW-self (Hafer & Sutton, 2016). To appreciate this limitation, consider the relationship between BJW-self and wellbeing. We do not know whether BJW-self causes higher levels of wellbeing across circumstances, thus acting as a personal resource and an important belief to hold, or if experiencing high levels of wellbeing causes the world to appear just. The few experimental and longitudinal studies in this area suggest a reciprocal relationship between the two (Correia et al., 2009; Dalbert & Stoeber, 2006).

The need to establish the causal direction of BJW-self is further emphasised by the mixed reports of causal effects now emerging in the literature. Studies suggest that prolonged exposure to negative experiences such as repeated negative acts (Cubela Adoric & Kwartuc, 2007); long-term unemployment (Cubela Adoric, 2004; Otto et al., 2009, Study 1); violence (Dzuka & Dalbert, 2007b); and discrimination (Schaafsma, 2013) can weaken BJW-self.

In order to establish causality, it is important to develop experimental manipulations that specifically target BJW-self. These manipulations should threaten or encourage the idea that the world is just for the self. The field devoted to experimentally investigating the BJW-

general provides a rich source of potential material (Ellard et al., 2016). However, only a small number of studies have manipulated BJW-self. One study primed BJW-self by directing participants to focus on their long-term goals (Hafer, 2000), while another has presented participants with a threat to their BJW-self, leading them to believe that the effort they were investing in their university studies would not be rewarded in the future (Correia et al., 2009). More recently, a series of experiments threatened BJW-self by asking participants to read and emotionally engage with interview excerpts of innocent victims (Schindler et al., 2019).

1.4.2 Avenues for Advancing BJW-self Theorizing

As reviewed here, there are an increasing number of studies investigating the explanatory mechanisms that mediate the link between BJW-self and a range of adaptive outcomes. However, outside of the work on teacher justice (Donat et al., 2016), this mediation research is disparate, spanning a range of potential mechanisms. A systematic investigation of mediating variables derived from theoretical assertions is a crucial way in which to empirically substantiate and expand BJW-self theorizing.

One way forward may be to return to one of the fundamental claims of justice motive theorizing, which is that BJW provides individuals with a sense of control. Originally, Lerner (1980) suggested that BJW enables people to confront the world as if it were a stable and orderly place; and as such, BJW provides people with a sense of control over their destiny (see Furnham, 2003; Lerner & Miller, 1978). In particular, BJW-self enables individuals to navigate through life confident in the expectation that they will be treated fairly (Dalbert, 2001). Such an expectation is empowering. Individuals can expect that their efforts and positive behaviours will usually be rewarded under the terms of the personal contract (Dalbert, 1999). They can put up with short-term pain and instead invest in long-term outcomes because they have learnt that it is usually worth it (e.g., Bartholomeus & Strelan,

2016). They can afford to strive, because they have learnt that their goals are usually attainable (e.g., Sutton & Winnard, 2007). They can handle setbacks, because they have learnt that setbacks are usually exceptions that prove the rule that the world treats them fairly (e.g., Otto et al., 2006). In short, a belief in a just world for the self is self-perpetuating: The more that people learn the contingency between inputs and outputs, the more in control they feel, and the more in control they feel, the better adjusted they should be.

Some empirical evidence points to the centrality of control in just world theorizing (Bègue, 2005; Bègue & Fumey, 2000; Furnham, 2003). In turn, there is ample evidence to suggest that control is connected with many of the adaptive, approach-oriented outcomes discussed throughout this review. A substantial body of theoretical and empirical work has established the links between a sense of control and wellbeing (Peterson, 1999). A sense of control has also been linked to optimism, coping with setbacks in life, and persistent action in the face of failures (see Skinner, 1996 for a review). Further, a sense of empowerment predicts a decreased tendency to seek revenge after a transgression (Strelan, Weick, & Vasiljevic, 2014) and promotes goal-directed behaviour (Galinsky et al., 2003). Within the BJW framework, two studies have specifically explored the mediating role of control between BJW-self and wellbeing. The first study established that control mediates the relationships between BJW-self and depression, anxiety, and wellbeing (Fischer & Holtz, 2010). The second study replicates these results showing that control mediates the relationship with satisfaction with life (Ucar et al., 2019).

A sense of control can provide a theoretical explanation for many of the relationships discussed throughout this review. Control can explain BJW-self's relationship with positive future orientation. If a person feels in control of their present, this may free up cognitive resources to think about their future. Further, a feeling of control in the present may foster the expectation of control in the future and thus gives rise to optimism. In the case of negative

life events, control may mediate BJW-self's relationship with coping. People with a strong BJW-self, and sense of control, may more readily take responsibility for their reaction to an event. They may feel the event is negative but not out of control, and thus engage in positive coping strategies and show increased resilience. Finally, a sense of control can also explain peoples' prosocial behaviour. People with a strong BJW-self are motivated to abide by the laws of justice, possibly because these laws provide the individual with a sense of control. If they were to break the laws, they would be disrupting the system that facilitates their sense of control.

A fundamental tenet of justice motive theory is that BJW-self acts as a personal resource to maintain and buffer wellbeing (Dalbert, 2001). Based on the current review of theory and empirical literature, we suggest that BJW-self, as a personal resource, also acts to maintain a sense of control in everyday life. We, therefore, encourage future research to investigate the explanatory role of control within the BJW framework, thereby empirically substantiating another aspect of justice motive theory.

1.4.3 Conclusion

Over the past 20 years research into BJW-self has emerged as an important field for understanding the adaptive, approach-oriented aspects of human functioning. This research has established that BJW-self shares robust relationships with wellbeing; adaptive coping when subject to unexplained disasters, prolong negative life events, physical, or mental illness; prosocial action; a positive future orientation; and achievement in life's goals. However, what is less clear is how and why BJW-self causes these adaptive, approach-orientated outcomes. To gain further insights into the functioning of BJW-self the field would do well to draw future research aims directly from the rich underpinnings of BJW theory. BJW-self is uniquely placed as a personal resource for everyday life, the extent of its influence is yet to be fully realised.

References

- Aderman, D., Brehm, S. S., & Katz, L. B. (1974). Empathic observation of an innocent victim: The just world revisited. *Journal of Personality and Social Psychology*, 29(3), 342–347. <https://doi.org/10.1037/h0036001>
- Alt, D. (2014). Assessing the connection between students' justice experience and attitudes toward academic cheating in higher education new learning environments. *Journal of Academic Ethics*, 12(2), 113–127. <https://doi.org/10.1007/s10805-014-9202-6>
- Alves, H. V., Gangloff, B., & Umlauft, S. (2018). The social value of expressing personal and general belief in a just world in different contexts. *Social Justice Research*, 31(2), 152–181. <https://doi.org/10.1007/s11211-018-0306-9>
- Bai, B., Liu, X., & Kou, Y. (2016). Belief in a just world lowers bribery intention. *Asian Journal of Social Psychology*, 19(1), 66–75. <https://doi.org/10.1111/ajsp.12108>
- Bartholomaeus, J., & Strelan, P. (2016). Just world beliefs and forgiveness: The mediating role of implicit theories of relationships. *Personality and Individual Differences*, 96, 106–110. <https://doi.org/10.1016/j.paid.2016.02.081>
- Bègue, L. (2005). Self-esteem regulation in threatening social comparison: The roles of belief in a just world and self-efficacy. *Social Behavior and Personality*, 33(1), 69–76. <https://doi.org/10.2224/sbp.2005.33.1.69>
- Bègue, L. (2014). Do just-world believers practice private charity? *Journal of Applied Social Psychology*, 44(1), 71–76. <https://doi.org/10.1111/jasp.12201>
- Bègue, L., & Bastounis, M. (2003). Two spheres of belief in justice: Extensive support for the bidimensional model of belief in a just world. *Journal of Personality*, 71(3), 435–463. <https://doi.org/10.1111/1467-6494.7103007>

- Bègue, L., Charmoillaux, M., Cochet, J., Cury, C., & De Suremain, F. (2008). Altruistic behavior and the bidimensional just world belief. *The American Journal of Psychology*, *121*(1), 47–56. <https://doi.org/10.2307/20445443>
- Bègue, L., & Fumey, V. (2000). Belief in a just world or self-serving strategy? *Social Behavior and Personality*, *28*(2), 119–124. <https://doi.org/10.2224/sbp.2000.28.2.119>
- Bègue, L., & Muller, D. (2006). Belief in a just world as moderator of hostile attributional bias. *British Journal of Social Psychology*, *45*(1), 117–126. <https://doi.org/10.1348/014466605X37314>
- Calhoun, L. G., & Cann, A. (1994). Differences in assumptions about a just world: Ethnicity and point of view. *Journal of Social Psychology*, *134*(6), 765–770. <https://doi.org/10.1080/00224545.1994.9923011>
- Carifio, J., & Nasser, R. (2012). Belief in a just world and depression in elderly nursing home residents. *Work*, *43*(3), 303–312. <https://doi.org/10.3233/WOR-2012-1371>
- Christandl, F. (2013). The belief in a just world as a personal resource in the context of inflation and financial crises. *Applied Psychology*, *62*(3), 486–518. <https://doi.org/10.1111/j.1464-0597.2012.00489.x>
- Correia, I., Batista, M. T., & Lima, M. L. (2009). Does the belief in a just world bring happiness? Causal relationships among belief in a just world, life satisfaction and mood. *Australian Journal of Psychology*, *61*(4), 220–227. <https://doi.org/10.1080/00049530802579515>
- Correia, I., & Dalbert, C. (2007). Belief in a just world, justice concerns, and well-being at Portuguese schools. *European Journal of Psychology of Education*, *22*(4), 421–437. <https://doi.org/10.1007/BF03173464>
- Correia, I., & Dalbert, C. (2008). School bullying: Belief in a personal just world of bullies, victims, and defenders. *European Psychologist*, *13*(4), 248–254. <https://doi.org/10.1027/1016-9040.13.4.248>

- Correia, I., Salvado, S., & Alves, H. V. (2017). Belief in a just world and self-efficacy to promote justice in the world predict helping attitudes, but only among volunteers. *Spanish Journal of Psychology*, *19*(28), 1–9. <https://doi.org/10.1017/sjp.2016.29>
- Cubela Adoric, V. (2004). Belief in a just world and young adults' ways of coping with unemployment and the job search. In C. Dalbert & H. Sallay (Eds.), *The justice motive in adolescence and young adulthood: Origins and consequences* (pp. 189–214). New York, NY: Routledge.
- Cubela Adoric, V., & Kwartuc, T. (2007). Effects of mobbing on justice beliefs and adjustment. *European Psychologist*, *12*(4), 261–271. <https://doi.org/10.1027/1016-9040.12.4.261>
- Dalbert, C. (1999). The world is more just for me than generally: About the personal belief in a just world scale's validity. *Social Justice Research*, *12*(2), 79–98.
<https://doi.org/10.1023/A:1022091609047>
- Dalbert, C. (2001). *The justice motive as a personal resource: Dealing with challenges and critical life events*. Retrieved from <https://link.springer.com/book/10.1007%2F978-1-4757-3383-9>
- Dalbert, C. (2002). Beliefs in a just world as a buffer against anger. *Social Justice Research*, *15*(2), 123–145. <https://doi.org/10.1023/A:1019919822628>
- Dalbert, C. (2009). Belief in a just world. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior*. (pp. 288–297). New York, NY: The Guilford Press.
- Dalbert, C., & Donat, M. (2015). Belief in a Just World. In J. Wright (Ed.), *International Encyclopedia of the Social & Behavioral Sciences: Second Edition* (pp. 487–492).
<https://doi.org/10.1016/B978-0-08-097086-8.24043-9>
- Dalbert, C., & Dzuka, J. (2004). Belief in a just world, personality and well-being of adolescents. In C. Dalbert & H. Sallay (Eds.), *The justice motive in adolescence and young adulthood: Origins and consequences* (pp. 101–116). New York, NY: Routledge.

- Dalbert, C., & Filke, E. (2007). Belief in a personal just world, justice judgments, and their functions for prisoners. *Criminal Justice and Behavior*, *34*(11), 1516–1527.
<https://doi.org/10.1177/0093854807306835>
- Dalbert, C., Montada, L., & Schmitt, M. (1987). Glaube an eine gerechte Welt als Motiv: Validierungskorrelate zweier Skalen [Belief in a just world: Validation correlates of two scales]. *Psychologische Beiträge*, *29*(4), 596–615.
- Dalbert, C., & Stoeber, J. (2005). The belief in a just world and distress at school. *Social Psychology of Education*, *8*(2), 123–135. <https://doi.org/10.1007/s11218-005-1835-2>
- Dalbert, C., & Stoeber, J. (2006). The personal belief in a just world and domain-specific beliefs about justice at school and in the family: A longitudinal study with adolescents. *International Journal of Behavioral Development*, *30*(3), 200–207.
<https://doi.org/10.1177/0165025406063638>
- Detle, D., Stöber, J., & Dalbert, C. (2004). Belief in a just world and adolescents' vocational and social goals. In C. Dalbert & H. Sallay (Eds.), *The justice motive in adolescence and young adulthood: Origins and consequences* (pp. 231–247). New York, NY: Routledge.
- Donat, M., Dalbert, C., & Kamble, S. V. (2014). Adolescents' cheating and delinquent behavior from a justice-psychological perspective: The role of teacher justice. *European Journal of Psychology of Education*, *29*(4), 635–651. <https://doi.org/10.1007/s10212-014-0218-5>
- Donat, M., Gallschütz, C., & Dalbert, C. (2018). The relation between students' justice experiences and their school refusal behavior. *Social Psychology of Education*, *21*(2), 447–475. <https://doi.org/10.1007/s11218-017-9423-9>
- Donat, M., Peter, F., Dalbert, C., & Kamble, S. V. (2016). The meaning of students' personal belief in a just world for positive and negative aspects of school-specific well-being. *Social Justice Research*, *29*(1), 73–102. <https://doi.org/10.1007/s11211-015-0247-5>

- Duggi, D. B., Amashi, I. S., & Kamble, S. V. (2018). Well-being in people living with HIV/AIDS in relation to belief in just world. *Indian Journal of Positive Psychology, 9*(1), 38–43. <https://doi.org/10.15614/ijpp.v9i01.n740>
- Dzuka, J., & Dalbert, C. (2002). Mental health and personality of Slovak unemployed adolescents: The impact of belief in a just world. *Journal of Applied Social Psychology, 32*(4), 732–757. <https://doi.org/10.1111/j.1559-1816.2002.tb00240.x>
- Dzuka, J., & Dalbert, C. (2006). The belief in a just world and subjective well-being in old age. *Aging and Mental Health, 10*(5), 439–444. <https://doi.org/10.1080/13607860600637778>
- Dzuka, J., & Dalbert, C. (2007a). Aggression at school: Belief in a personal just world and well-being of victims and aggressors. *Studia Psychologica, 49*(4), 313–320.
- Dzuka, J., & Dalbert, C. (2007b). Student violence against teachers: Teachers' well-being and the belief in a just world. *European Psychologist, 12*(4), 253–260. <https://doi.org/10.1027/1016-9040.12.4.253>
- Ellard, J., Harvey, A., & Callan, M. (2016). The justice motive: History, theory, and research. In C. Sabbagh & M. Schmitt (Eds.), *Handbook of Social Justice Theory and Research* (pp. 127–143). https://doi.org/10.1007/978-1-4939-3216-0_8
- Fetchenhauer, D., Jacobs, G., & Belschak, F. (2005). Belief in a just world, causal attributions, and adjustment to sexual violence. *Social Justice Research, 18*(1), 25–42. <https://doi.org/10.1007/s11211-005-3369-1>
- Fischer, A. R., & Holz, K. B. (2010). Testing a model of women's personal sense of justice, control, well-being, and distress in the context of sexist discrimination. *Psychology of Women Quarterly, 34*(3), 297–310. <https://doi.org/10.1111/j.1471-6402.2010.01576.x>
- Fox, C. L., Elder, T., Gater, J., & Johnson, E. (2010). The association between adolescents' beliefs in a just world and their attitudes to victims of bullying. *British Journal of Educational Psychology, 80*(2), 183–198. <https://doi.org/10.1348/000709909X479105>

- Fry, P. S., & Debats, D. L. (2011). Cognitive beliefs and future time perspectives: Predictors of mortality and longevity. *Journal of Aging Research*, 1–13.
<https://doi.org/10.4061/2011/367902>
- Furnham, A. (2003). Belief in a just world: Research progress over the past decade. *Personality and Individual Differences*, 34(5), 795–817. [https://doi.org/10.1016/S0191-8869\(02\)00072-7](https://doi.org/10.1016/S0191-8869(02)00072-7)
- Furnham, A., & Procter, E. (1989). Belief in a just world: Review and critique of the individual difference literature. *British Journal of Social Psychology*, 28(4), 365–384.
<https://doi.org/10.1111/j.2044-8309.1989.tb00880.x>
- Galinsky, A. D., Gruenfeld, D. H., & Magee, J. C. (2003). From power to action. *Journal of Personality and Social Psychology*, 85(3), 453–466. <https://doi.org/10.1037/0022-3514.85.3.453>
- Hafer, C. L. (2000). Investment in long-term goals and commitment to just means drive the need to believe in a just world. *Personality and Social Psychology Bulletin*, 26(9), 1059–1073.
<https://doi.org/10.1177/01461672002611004>
- Hafer, C. L., & Bègue, L. (2005). Experimental research on just-world theory: Problems, developments, and future challenges. *Psychological Bulletin*, 131(1), 128–167.
<https://doi.org/10.1037/0033-2909.131.1.128>
- Hafer, C. L., & Sutton, R. (2016). Belief in a just world. In C. Sabbagh & M. Schmitt (Eds.), *Handbook of Social Justice Theory and Research* (pp. 145–160). https://doi.org/10.1007/978-1-4939-3216-0_8
- Horvath, M. A. H., & Massey, K. (2018). The impact of witnessing other people's trauma: The resilience and coping strategies of members of the Faculty of Forensic and Legal Medicine. *Journal of Forensic and Legal Medicine*, 55, 99–104.
<https://doi.org/10.1016/j.jflm.2018.02.012>

- Johnston, C. S., Krings, F., Maggiori, C., Meier, L. L., & Fiori, M. (2016). Believing in a personal just world helps maintain well-being at work by coloring organizational justice perceptions. *European Journal of Work and Organizational Psychology, 25*(6), 945–959. <https://doi.org/10.1080/1359432X.2016.1192132>
- Kamble, S. V., & Dalbert, C. (2012). Belief in a just world and wellbeing in Indian schools. *International Journal of Psychology, 47*(4), 269–278. <https://doi.org/10.1080/00207594.2011.626047>
- Khera, M. L., Harvey, A. J., & Callan, M. J. (2014). Beliefs in a just world, subjective well-being and attitudes towards refugees among refugee workers. *Social Justice Research, 27*(4), 432–443. <https://doi.org/10.1007/s11211-014-0220-8>
- Kim, E., & Kim, J. (2017). Self-Blame and blaming others mediate a belief in a just world and Hwa-Byung: A structural equation model. *International Journal for the Advancement of Counselling, 39*(4), 333–344. <https://doi.org/10.1007/s10447-017-9301-3>
- Lerner, M. (1980). *The Belief in a Just World: A Fundamental Delusion*. New York, NY: Springer US.
- Lerner, M. J., & Miller, D. T. (1978). Just world research and the attribution process: Looking back and ahead. *Psychological Bulletin, 85*(5), 1030–1051. <https://doi.org/10.1037/0033-2909.85.5.1030>
- Lerner, M. J., Miller, D. T., & Holmes, J. G. (1976). Deserving and the emergence of forms of justice. In L. Berkowitz & E. Walster (Eds.), *Advances in experimental social psychology* (Vol. 9, pp. 133–162). New York: Elsevier.
- Lerner, M. J., & Simmons, C. H. (1966). Observer's reaction to the "innocent victim": Compassion or rejection? *Journal of Personality and Social Psychology, 4*(2), 203–210. <https://doi.org/10.1037/h0023562>

- Lipkus, I. M. (1991). The construction and preliminary validation of a global belief in a just world scale and the exploratory analysis of the multidimensional belief in a just world scale. *Personality and Individual Differences, 12*(11), 1171–1178. <https://doi.org/10.1016/0191-8869%2891%2990081-L>
- Lipkus, I. M., Dalbert, C., & Siegler, I. C. (1996). The importance of distinguishing the belief in a just world for self versus for others: Implications for psychological well-being. *Personality and Social Psychology Bulletin, 22*(7), 666–677. <https://doi.org/10.1177/0146167296227002>
- McParland, J. L., & Knussen, C. (2016). Catastrophizing mediates the relationship between the personal belief in a just world and pain outcomes among chronic pain support group attendees. *Psychological Injury and Law, 9*(1), 23–30. <https://doi.org/10.1007/s12207-015-9246-y>
- McParland, J., Knussen, C., Serpell, M., & Eccleston, C. (2015). The function of just-world beliefs in a sample of pain clinic attendees. *Journal of Pain Management, 7*(4), 263–271.
- Nasser, R., Doumit, J., & Carifio, J. (2011). Well-being and belief in a just world among rest home residents. *Social Behavior and Personality, 39*(5), 655–670. <https://doi.org/10.2224/sbp.2011.39.5.655>
- Nudelman, G. (2013). The belief in a just world and personality: A meta-analysis. *Social Justice Research, 26*(2), 105–119. <https://doi.org/10.1007/s11211-013-0178-y>
- Nudelman, G., Otto, K., & Dalbert, C. (2016). Can belief in a just world buffer mood and career prospects of people in need of risk protection? First experimental evidence. *Risk Analysis, 36*(12), 2247–2257. <https://doi.org/10.1111/risa.12588>
- Oppenheimer, L. (2006). The belief in a just world and subjective perceptions of society: A developmental perspective. *Journal of Adolescence, 29*(4), 655–669. <https://doi.org/10.1016/j.adolescence.2005.08.014>

- Otto, K., Boos, A., Dalbert, C., Schops, D., & Hoyer, J. (2006). Posttraumatic symptoms, depression, and anxiety of flood victims: The impact of the belief in a just world. *Personality and Individual Differences, 40*(5), 1075–1084. <https://doi.org/10.1016/j.paid.2005.11.010>
- Otto, K., & Dalbert, C. (2005). Belief in a just world and its functions for young prisoners. *Journal of Research in Personality, 39*(6), 559–573. <https://doi.org/10.1016/j.jrp.2005.01.004>
- Otto, K., Glaser, D., & Dalbert, C. (2009). Mental health, occupational trust, and quality of working life: Does belief in a just world matter? *Journal of Applied Social Psychology, 39*(6), 1288–1315. <https://doi.org/10.1111/j.1559-1816.2009.00482.x>
- Otto, K., & Schmidt, S. (2007). Dealing with stress in the workplace: Compensatory effects of belief in a just world. *European Psychologist, 12*(4), 272–282. <https://doi.org/10.1027/1016-9040.12.4.272>
- Peter, F., Kloeckner, N., Dalbert, C., & Radant, M. (2012). Belief in a just world, teacher justice, and student achievement: A multilevel study. *Learning and Individual Differences, 22*(1), 55–63. <https://doi.org/10.1016/j.lindif.2011.09.011>
- Peterson, C. (1999). Personal control and well-being. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The Foundations of hedonic psychology* (pp. 288–301). New York, NY, US: Russell Sage Foundation.
- Rubin, Z., & Peplau, A. (1973). Belief in a just world and reactions to another's lot: A study of participants in the national draft lottery. *Journal of Social Issues, 29*(4), 73–93. <https://doi.org/10.1111/j.1540-4560.1973.tb00104.x>
- Rubin, Z., & Peplau, L. A. (1975). Who Believes in a Just World? *Journal of Social Issues, 31*(3), 65–89. <https://doi.org/10.1111/j.1540-4560.1975.tb00997.x>
- Sallay, H. (2004). Entering the job market. Belief in a just world, fairness and well-being of graduating students. In C. Dalbert & H. Sallay (Eds.), *The justice motive in adolescence and young adulthood: Origins and consequences* (pp. 215–230). New York, NY: Routledge.

- Schaafsma, J. (2013). Through the lens of justice: Just world beliefs mediate relationships between perceived discrimination and subjective well-being. *International Journal of Intercultural Relations*, 37(4), 450–458. <https://doi.org/10.1016/j.ijintrel.2013.04.002>
- Schindler, S., Wenzel, K., Dobiosch, S., & Reinhard, M. A. (2019). The role of belief in a just world for (dis)honest behavior. *Personality and Individual Differences*, 142, 72–78. <https://doi.org/10.1016/j.paid.2019.01.037>
- Şeker, B. D. (2016). Evaluation of life satisfaction after the 2011 Van (Turkey) earthquake. *Social Behavior and Personality*, 44(9), 1409–1417. <https://doi.org/10.2224/sbp.2016.44.9.1409>
- Skinner, E. A. (1996). A guide to constructs of control. *Journal of Personality and Social Psychology*, 71(3), 549–570. <https://doi.org/10.1037/0022-3514.71.3.549>
- Silver, K. E., Karakurt, G., & Boysen, S. T. (2015). Predicting prosocial behavior toward sex-trafficked persons: The roles of empathy, belief in a just world, and attitudes toward prostitution. *Journal of Aggression, Maltreatment and Trauma*, 24(8), 932–954. <https://doi.org/10.1080/10926771.2015.1070231>
- Spence, J. R., Ferris, D. L., Brown, D. J., & Heller, D. (2011). Understanding daily citizenship behaviors: A social comparison perspective. *Journal of Organizational Behavior*, 32(4), 547–571. <https://doi.org/10.1002/job.738>
- Strelan, P. (2007). The prosocial, adaptive qualities of just world beliefs: Implications for the relationship between justice and forgiveness. *Personality and Individual Differences*, 43(4), 881–890. <https://doi.org/10.1016/j.paid.2007.02.015>
- Strelan, P. (2018). Justice and forgiveness in interpersonal relationships. *Current Directions in Psychological Science*, 27(1), 20–24. <https://doi.org/10.1177/0963721417734311>
- Strelan, P., & McKee, I. (2014). Inclusive justice beliefs and forgiveness: Commonality through self-transcending values. *Personality and Individual Differences*, 68, 87–92. <https://doi.org/10.1016/j.paid.2014.04.001>

- Strelan, P., & Van Prooijen, J. W. (2014). Rationalizers or realists? The effects of transgressors' just world beliefs within committed relationships. *Personality and Individual Differences*, *63*, 41–46. <https://doi.org/10.1016/j.paid.2014.01.046>
- Strelan, P., Weick, M., & Vasiljevic, M. (2014). Power and revenge. *British Journal of Social Psychology*, *53*(3), 521–540. <https://doi.org/10.1111/bjso.12044>
- Sutton, R. M., & Douglas, K. M. (2005). Justice for all, or just for me? More evidence of the importance of the self-other distinction in just-world beliefs. *Personality and Individual Differences*, *39*(3), 637–645. <https://doi.org/10.1016/j.paid.2005.02.010>
- Sutton, R. M., Douglas, K. M., Wilkin, K., Elder, T. J., Cole, J. M., & Stathi, S. (2008). Justice for whom, exactly? Beliefs in justice for the self and various others. *Personality and Social Psychology Bulletin*, *34*(4), 528–541. <https://doi.org/10.1177/0146167207312526>
- Sutton, R. M., Stoeber, J., & Kamble, S. V. (2017). Belief in a just world for oneself versus others, social goals, and subjective well-being. *Personality and Individual Differences*, *113*, 115–119. <https://doi.org/10.1016/j.paid.2017.03.026>
- Sutton, R. M., & Winnard, E. J. (2007). Looking ahead through lenses of justice: The relevance of just-world beliefs to intentions and confidence in the future. *British Journal of Social Psychology*, *46*(3), 649–666. <https://doi.org/10.1348/014466606X166220>
- Thomas, K. J., & Mucherah, W. M. (2018). Brazilian adolescents' just world beliefs and its relationships with school fairness, student conduct, and legal authorities. *Social Justice Research*, *31*(1), 41–60. <https://doi.org/10.1007/s11211-017-0301-6>
- Tian, L., Jia, X., & Liu, X. (2018). How belief in a just world might shape responses to discrimination: A case study of left-behind children in China. *The International Journal of Social Psychiatry*, *64*(3), 266–275. <https://doi.org/10.1177/0020764018760951>

- Ucar, G. K., & Dalbert, C. (2018). The longitudinal associations between personal belief in a just world and teacher justice among advantaged and disadvantaged school students. *International Journal of Psychology*. <https://doi.org/10.1002/ijop.12564>
- Ucar, G. K., Hasta, D., & Malatyali, M. K. (2019). The mediating role of perceived control and hopelessness in the relation between personal belief in a just world and life satisfaction. *Personality and Individual Differences*, 143, 68–73. <https://doi.org/10.1016/j.paid.2019.02.021>
- Umemura, T., & Šerek, J. (2016). Different developmental pathways from parental warmth to adolescents' trust in peers and politicians: Mediating roles of adolescent–parent attachment and belief in a just world. *Social Justice Research*, 29(2), 186–205. <https://doi.org/10.1007/s11211-016-0258-x>
- Valiente, C., Espinosa, R., Vazquez, C., Cantero, D., & Fuentenebro, F. (2010). World assumptions in psychosis: Do paranoid patients believe in a just world? *Journal of Nervous and Mental Disease*, 198(11), 802–806. <https://doi.org/10.1097/NMD.0b013e3181f9807b>
- Wickham, S., & Bentall, R. P. (2016). Are specific early-life adversities associated with specific symptoms of psychosis?: A patient study considering just world beliefs as a mediator. *Journal of Nervous and Mental Disease*, 204(8), 606–613. <https://doi.org/10.1097/NMD.0000000000000511>
- Wickham, S., Shryane, N., Lyons, M., Dickins, T., & Bentall, R. (2014). Why does relative deprivation affect mental health? The role of justice, trust and social rank in psychological wellbeing and paranoid ideation. *Journal of Public Mental Health*, 13(2), 114–126. <https://doi.org/10.1108/JPMH-06-2013-0049>
- Wu, M. S., Yan, X., Zhou, C., Chen, Y., Li, J., Zhu, Z., ... Han, B. (2011). General belief in a just world and resilience: Evidence from a collectivistic culture. *European Journal of Personality*, 25(6), 431–442. <https://doi.org/10.1002/per.807>

Xie, X., Liu, H., & Gan, Y. (2011). Belief in a just world when encountering the 5/12 Wenchuan earthquake. *Environment and Behavior*, 43(4), 566–586.

<https://doi.org/10.1177/0013916510363535>

From the Review to Initial Exploration

Having reviewed the literature on BJW-self I turned my attention to finding initial empirical evidence in support for the hypothesis that BJW-self facilitates adaptive psychological functioning because it is empowering. I, therefore, turned to simple exploratory methods using cross-sectional samples. I looked for associations between BJW-self, empowerment, and a collection of seven adaptive outcomes across two independent samples with significantly different demographic characteristics. To understand how these variables may be related within the individual over time I also collected and analysed data from a longitudinal sample over a one-year period. The analysis of these three samples forms the first study in this thesis and is outlined in the following chapter.

Chapter 2 Statement of Authorship

Title of Paper	Using Structural Equation Modelling to Investigate the Empowering Effect of Belief in a Just World on Adaptive Psychological Functioning
Publication Status	<input type="checkbox"/> Published <input type="checkbox"/> Accepted for Publication <input checked="" type="checkbox"/> Submitted for Publication <input type="checkbox"/> Unpublished and submitted work written in manuscript style
Publication Details	A brief version of this chapter has been submitted to the Journal of Positive Psychology.

Principle Author

Name of Principal Author	Jonathan Bartholomaeus	
Contribution to the Paper	Study concept and design, data collection, statistical analyses, writing manuscript.	
Overall percentage (%)	80%	
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author/of this paper.	
Signature	_____	Date: 9/3/2021

Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

- iv. the candidate's stated contribution to the publication is accurate (as detailed above);
- v. permission is granted for the candidate to include the publication in the thesis; and
- vi. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

Name of Co-Author	Peter Strelan	
Contribution to the Paper	Principal supervision, advice about the study concept and design, manuscript proofreading.	
Signature	_____	Date: _____

Name of Co-Author	Nicholas Burns	
Contribution to the Paper	Secondary supervision, advice on statistical analysis methodology.	
Signature	_____	Date: _____

CHAPTER 2**Using Structural Equation Modelling to Investigate the Empowering Effect of Belief in
a Just World on Adaptive Psychological Functioning**

Jonathan Bartholomaeus^{1,2}, Peter Strelan¹, Nicholas Burns¹

1. School of Psychology, The University of Adelaide, North Terrace, Adelaide, 5005

Australia

2. The Registry of Senior Australians (ROSA), The South Australian Health and Medical
Research Institute, North Terrace, Adelaide, 5000 Australia

Abstract

The empowering function of the belief in a just world for the self (BJW-self) provides a unique framework for understanding the antecedents of adaptive psychological functioning. Using structural equation modelling we test this hypothesised framework across three samples. In Sample 1 we establish initial support for the association between BJW-self, power, and adaptive functioning; conceptualised as indices of life satisfaction, meaning in life, optimism, resilience, depression, anxiety, and stress. The adequate fit of this model was then replicated with an independent sample (Sample 2). A subsample of Sample 1 completed measures again after one year (Subsample 3). Findings from this sample did not provide strong confirmatory evidence for the temporal predictive validity of the model. Our findings provide both confirmatory and ambiguous evidence for the empowering contribution of BJW-self to adaptive functioning. Theoretical implications of these findings are discussed, as well as the need for, and challenges of, longitudinal research in the study of BJW-self.

Keywords: belief in a just world, power, adaptive psychological functioning, psychopathology.

2.1 Introduction

Adaptive psychological functioning is by definition important and desirable. But how do we attain it? This question is pervasive in the study of psychology as evidenced by the numerous theories suggested over the years. Historically, Maslow (1943) suggested a hierarchy of needs, each level of which leads to a new level of growth upon satisfying the requisite demands. Ryan and Deci (2000) later suggested that meeting the universal and innate psychological needs of competence, autonomy, and relatedness was essential for psychological health. More recently, interest in this topic has exploded with the advent of positive psychology, the study of which has produced many taxonomies of what is thought to constitute positive functioning (Hone et al. 2014).

One framework that provides a compelling explanation for the development and maintenance of adaptive functioning stems from the concept of the belief in a just world (BJW). Those casually acquainted with BJW might think this claim odd, since BJW is famously associated with victim blaming. However, as we shall see shortly, it depends on the sphere of BJW that is activated. When BJW is conceptualized in self-oriented terms (BJW-self), there is now abundant evidence that it is associated with numerous positive outcomes and adaptive personal characteristics. In this study we demonstrate how BJW-self positively predicts adaptive functioning. Notably, we make a new contribution by demonstrating that the association between BJW-self and adaptive functioning occurs primarily through the mechanism of empowerment.

2.1.1 Belief in a Just World

In 1966, Lerner and Simmons, through a series of social experiments, found that when people observed the unexplained and unwarranted suffering of ostensibly innocent victims they behaved in an unexpected manner. Instead of showing compassion, they tended to reject and devalue the victims. In an effort to explain the underlying psychological

mechanism that caused this reaction Lerner developed justice motive theory, a central tenet of which is BJW.

Lerner (1980) suggested that BJW is a cognitive resource that allows people to see the world as a stable and orderly place and therefore to feel as though they understand and, to an extent, control the environment in which they live. BJW is seated in the foundational notion that, in this life, people get what they deserve and deserve what they get. Regardless of the objective truth of this notion, BJW is subjectively adaptive as it allows people to project the order of cause-and-effect onto events in their lives. The importance of cause-and-effect is thought to be established early in life when individuals enter into a personal contract with themselves (Lerner et al., 1976). The terms of this contract are centred on deservingness and state that in order to gain greater long-term rewards the individual must delay meeting their impulsive desires and invest in the future; through patience and hard work people earn and therefore deserve their eventual reward. For example, a student may learn that in order to perform well on an academic test they must study, which means delaying their immediate desire to socialise with friends.

BJW can explain why the observers in Lerner's experiments rejected and devalued the innocent victims. The suffering of innocent victims presents a threat to the belief that the world is in fact just. If the victims were truly innocent, then in a just world they would not suffer. The notion that the world is not just is psychological anathema because of the extreme ramifications it implies: if the world is not just it must be random; there are no clear links between cause and effect; and people may experience arbitrary underserved pain and suffering. To resolve the dissonance presented by this threat, observers can either accept that the world is not just or search for reasons why the victims might in some way have deserved their suffering. By and large people tend to do the latter, resulting in the rejection and devaluation of victims.

For many years research on BJW was predominantly experimental and focused on the social detriments of BJW, clarifying the extent and the circumstances under which observers blame innocent victims (see Hafer & Bègue, 2005 for a review). However, more recently research has suggested that there may be a positive side to BJW, particularly when BJW is measured as a trait. At the trait level, researchers distinguish between the belief that the world is a just place for others (BJW-other) and the world as a just place for the self (BJW-self; Lipkus et al., 1996). Consistent with the pattern of experimental findings, BJW-other is generally associated with negative outcomes, such as blaming victims for self-inflicting their fates; harsh social attitudes towards the poor; and selfish behaviour (see Hafer & Sutton, 2016 for a review). In contrast, BJW-self is broadly associated with a number of positive outcomes such as increased wellbeing; prosocial behaviour; striving for meaningful goals; and an optimistic future outlook (see Bartholomaeus & Strelan, 2019 for a review).

2.1.2 BJW-self is Imperative for Adaptive Psychological Functioning

Theorising suggests that BJW-self provides a framework for adaptive psychological functioning through three central processes: assimilation, motivation, and trust (Dalbert 2001). The *assimilation* function allows individuals to preserve their BJW-self by enabling them to ascribe meaning to random events in their lives. In other words, the assimilation function prompts the individual to search for a cause when they see an effect. Assimilating random events into one's understanding of the world allows people to feel as though they understand the world. Consequently, people with a strong BJW-self are more likely to perceive their treatment by others as just (Dalbert & Filke, 2007) and are able to cope better with hardships by finding meaning in their suffering or by downplaying suffering (Dalbert, 2001).

The *motive* function compels people to act morally and justly in their everyday lives in order to maintain a just world. The motive function arises from the personal contract

(Lerner et al., 1976). As a result of the motive function, people with high levels of BJW-self will strive to achieve their goals using just means (Alt, 2014), avoid delinquent behaviour (Donat et al., 2014), and behave in a prosocial manner (Sutton et al., 2017). Finally, the *trust* function enables people to be confident that, because the world is a fair place, they can trust in others and in the justness of their fate. This trust helps people to invest in long-term goals and relationships (Bartholomaeus & Strelan, 2016; Sutton & Winnard, 2007); to expect just rewards for their efforts (Correia & Dalbert, 2007); and to show trust in others (Bègue, 2002).

In addition to the three functions, recent theorizing (Bartholomaeus & Strelan, 2019) suggests that BJW-self acts to maintain adaptive psychological functioning through a fourth complementary psychological process, a sense of power.

2.1.3 The Functional Role of Power

Power has been broadly defined as “the ability to determine personally relevant rewards and punishments” (Leach et al., 2017, p. 5). The feeling of freedom from the influence of others; independence from the actions of others; and control of one’s own fate are central to this definition (Lammers et al., 2016; Leach et al., 2017). Experiencing a sense of power is generally regarded as a positive experience and is related to a range of positive and adaptive outcomes (see Galinsky et al., 2015 for a review).

The approach/inhibition theory of power (Keltner et al., 2003) details a framework accounting for the varied ways in which power influences affect, cognition, and behaviour. The theory suggests that increased power activates, and decreased power inhibits, behavioural motivations. As an increased sense of power is associated with increased sensitivity to rewards and unconstrained behaviour it is, therefore, thought to activate the behavioural activation system (BAS). Successful BAS functioning is characterised in terms of heightened positive responsiveness to rewards, an increased drive to pursue goals, and reward-seeking behaviour (Carver & White, 1994). In turn, these aspects of the BAS are

broadly associated with adaptive functioning (Taubitz et al., 2015). In contrast, decreased power is associated with a lack of resources and a higher awareness of social constraints, and therefore activates the behavioural inhibition system (BIS). BIS functioning is associated with sensitivity towards potential threats, and thus inhibits behaviour that may illicit punishment (Carver & White, 1994). The BIS is linked with negative outcomes such as higher neuroticism and increased anxious and depressive symptomology (Campbell-Sills et al., 2004).

The approach/inhibition theory of power can be interpreted through the just world framework. Only in a just world, where one gets what one deserves, does the elicitation of BAS functioning through a sense of increased power make sense. The activation of the BAS is associated with pursuing goals and increased reward-seeking behaviour. This behaviour necessitates a world in which there is a clear link between cause and effect, where one can abide by the tenets of the personal contract and work diligently with the expectation of commensurate rewards. In this way the functional role of power, in accordance with the approach/inhibition theory, is linked with just world reasoning. It is this association that lays the foundation for understanding the empowering function of BJW-self.

2.1.4 Power as a Function of BJW-self

The empowering function of BJW-self is evident throughout the theoretical and empirical literature. A strong endorsement of BJW-self enables people to confront the world as if it were a stable and orderly place (Lerner, 1980). A world that is stable and orderly is predictable and it is this predictability, combined with the expectation that effort and positive behaviours will be fairly rewarded (Correia & Dalbert, 2007), that provides people with a sense of control over their future (Lerner & Miller, 1978). That is, in this psychologically predictable world people tend to assume that there is a mechanism that can be manipulated in order to control what happens in their lives (Lerner, 1980). An increased endorsement of

BJW-self, therefore, leads to a heightened subjective sense of one's ability to determine their own fate (a foundational notion for a sense of power, Leach et al., 2017).

In a series of correlational and experimental studies BJW-self was observed to cause an increased sense of empowerment, which in turn caused increased positive affect and decreased negative affect (Bartholomaeus et al., under review). These studies outline the empowering role of BJW-self but were limited as they only investigated affect. General support for the empowering function of BJW-self can be gleaned from empirical evidence on the association between BJW-self and a close relative of power, perceived control³. Initial work showed consistent correlations between BJW and internal locus of control and the need for control (Furnham & Procter, 1989). More recently, several studies have shown the indirect effects of BJW-self on various indices of wellbeing via perceived control (Fischer & Holz, 2010; Scholz & Strelan, 2020; Ucar et al., 2019; Yu et al., 2018). Given the extant theory and empirical evidence, we suggest that a stronger endorsement of BJW-self will be associated with an increased sense of power, which is the pivoting mechanism by which BJW-self promotes adaptive psychological functioning.

2.1.5 Adaptive Psychological Functioning

For the purposes of this investigation, we have defined adaptive psychological functioning as the presence of life satisfaction, meaning in life (presence and search), optimism, and resilience, and the absence of depression, anxiety, and stress. These constructs were selected because (a) there are strong theoretical grounds suggesting that these constructs

³ While a clear delineation between perceived control and power has not been established in the literature, the psychological feeling of control deals primarily with perceived resources and limitations with reference to achieving a certain goal in a specific environment or domain of life (Lachman & Weaver, 1998). Power, however, connotes a broader sense of social and personal freedom: to do as one pleases; to be free from the influence of others; and to have authority over one's own fate (Lammers et al., 2016; Leach et al., 2017). While there may be conceptual similarities between these constructs, there is evidence that perceived control and power are two independent constructs that can interact (Fast et al., 2009).

stem from the empowering function of BJW-self, and (b) they cover a broad range of healthy traits and positive processes, as well as symptoms of psychopathology.

2.1.5.1 Life Satisfaction

Life satisfaction, one's cognitive appraisal of the quality of their current life circumstances (Diener et al., 1985), is widely regarded as a hallmark of positive functioning (Linton et al., 2016) and a key indicator of subjective wellbeing (Linley et al., 2009). BJW-self is generally positively associated with various indices of subjective wellbeing, affect, and psychological wellbeing (see Bartholomaeus & Strelan, 2019 for a review). Through the activation of BAS functioning a sense of power is associated with general adaptive functioning (Taubitz et al., 2015) as well as subjective wellbeing (see Leach & Weick, 2018 for review). Bombari et al. (2017), for example, have shown that a sense of power is associated with increased happiness and serenity, and decreased fear, anger, and sadness. We therefore proposed that it is specifically through the mechanism of increased power that BJW-self positively influences life satisfaction.

2.1.5.2 Meaning in Life

Meaning in life is defined as the subjective sense of what makes one's life meaningful and is generally divided into two central components: the presence of meaning, and the search for meaning (Steger et al., 2006). A number of theories suggest that a sense of meaning in life is an important part of wellbeing and adaptive functioning (Hone et al., 2014). The two components of meaning (presence and search) are not mutually exclusive, but rather interact to promote wellbeing (Newman et al., 2018). Specifically, Steger et al. (2011) observed that participants reported positive outcomes when they had a strong presence of meaning in their lives but also when actively searching for meaning.

Lerner (1980) suggested that BJW is *the* way that people, “find meaning in their experiences”, (p. vii). While a recent study has found a positive association between the

broad constructs of BJW (inclusive of BJW-self and BJW-other) and the presence of meaning in life (Igou et al., 2020), there has been, to our knowledge, no research on the association between BJW-self and the presence and search for meaning in life. This is surprising as BJW-self has been shown to help people make sense out of unjust and random events, thus fostering positive coping behaviour (see Bartholomaeus & Strelan, 2019 for a review). While no prior research has linked a sense of power with meaning in life the approach/inhibition model of power provides an indication of the positive association between these two constructs. A sense of power leads to goal-orientated behaviour and increased sensitivity to rewards (Keltner et al., 2003). This motivation likely drives people to search for meaningful pursuits, relationships, and experiences throughout their lives and, as a result, experience higher levels of the search for and presence of meaning in life. We expect BJW-self to be associated with both the presence and search for meaning in life primarily through the empowering function of BJW-self.

2.1.5.3 Optimism

Trait optimism refers to the tendency to expect good things to happen and is linked with a wide range of positive outcomes (Carver et al., 2010). Increased optimism is psychologically adaptive as it relates to increased subjective wellbeing, better physical health, persistence in efforts to attain goals, increased income, and higher quality interpersonal relationships (see Carver et al., 2010 for a review). Past research has linked BJW-self with increased hope (Şeker, 2016; Xie et al., 2011); increased confidence of success in future social and career goals (Nudelman et al., 2016); and the pursuit of legitimate life goals (Sutton & Winnard, 2007). Recent evidence demonstrates an association between BJW-self and the optimism bias (Strelan & Callisto, 2020).

A sense of power is also associated with optimistic thinking (Fast et al., 2009). The approach/inhibition theory suggests that people with power are more likely to see rewards

and opportunities in ambiguous information, whereas those with a lack of power are more likely to pay attention to threatening and punishing information (Keltner et al., 2003). As a result of BAS functioning, individuals are more likely to have optimistic perceptions of their future, think that the world is less dangerous, and display risk-seeking behaviour (Anderson & Galinsky, 2006). Similarly, those with power display optimistic interpretations of their future insofar as they are less loss averse—downplaying the possibility and impact of potential future losses (Inesi, 2010). It is therefore through the behavioural activation of a sense of power that we expect to see an indirect effect of BJW-self on trait optimism.

2.1.5.4 Resilience

Resilience refers to one's ability to bounce back or recover from stress (Smith et al., 2008). The notion of resilience has been included in many models of wellbeing and taxonomies of positive functioning (Hone et al., 2014; Marsh et al., 2020). BJW-self has been shown to predict a variety of resilient behaviours in response to both natural and economic disasters. For example, in a sample of German flood victims, BJW-self was associated with decreased depression, anxiety, and general psychological distress (Otto et al., 2006). Similarly, for victims of earthquakes, BJW-self has been related to decreased feelings of depression and anxiety; an increased sense of hope (Xie et al., 2011); and increased life satisfaction (Şeker, 2016). BJW-self has also been associated with teachers' resilience to acts of student violence (Dzuka & Dalbert, 2007).

To date, there are no direct links between power and resilience but there is a clear theoretical link between the two constructs. The activation of the BAS resulting from a sense of power increases cognitive flexibility (Keltner et al., 2003). Heighted cognitive flexibility allows the individual to interpret difficult situations as controllable; entertain multiple explanations for life events and human behaviour; and generate multiple solutions to difficult situations (Dennis & Vander Wal, 2010). Cognitive flexibility appears to be central in recent

theorising on cognitive models of psychological resilience (Parsons et al., 2016) with empirical studies supporting this association (Mealer et al., 2014). Additionally, trait resilience correlates directly with the reward responsiveness, drive, and fun-seeking subscales of the BAS scale (Genet & Siemer, 2011). Therefore, we suggest that BJW-self facilitates increased resilience through BAS functioning and the heightened cognitive flexibility associated with an increased sense of power.

2.1.5.5 Depression, Anxiety, and Stress

In the current investigation we selected the indices of depression, anxiety, and stress to represent general dispositional subjective distress (Henry & Crawford, 2005). The absence of subjective distress (and the dispositional inclination towards it) forms an important component of adaptive psychological functioning. BJW-self is negatively associated with indices of distress, including decreased depressive symptoms (Kamble & Dalbert, 2012), lower anxiety (Otto et al., 2006), and reduced stress (Lipkus et al., 1996).

Decreased power is associated with BIS functioning characterised by increased attention to threats and punishment, and the inhibition of behaviour that could lead to negative outcomes (Keltner et al., 2003). BIS functioning is associated with the symptomology of depression and anxiety (Campbell-Sills et al., 2004). Conversely the experience of power has been associated with an increased tolerance of stress (Galinsky et al., 2015) and reduced experience of depression, anxiety, and stress (Strelan et al., 2019). Based on the extant evidence we suggest that BJW-self, through an increased sense of power, will lead to reduced subjective distress as measured by depression, anxiety, and stress.

2.1.6 The Present Investigation

Our main objective is to show that BJW-self is associated with adaptive psychological functioning through the mechanism of an increased sense of power. Based on the theory and empirical evidence outlined above we propose the model displayed in Figure 2.1. Formally,

we hypothesise that BJW-self will be positively associated with life satisfaction, the presence of meaning in life, the search for meaning in life, optimism, and resilience, and negatively associated with depression, anxiety, and stress indirectly through a sense of power. We aim to establish the appropriate fit of this model in Sample 1; replicate the fit of this model with an independent sample (Sample 2); and assess the temporal predictive utility of the model over a one-year period in a subsample of Sample 1 (Subsample 3).

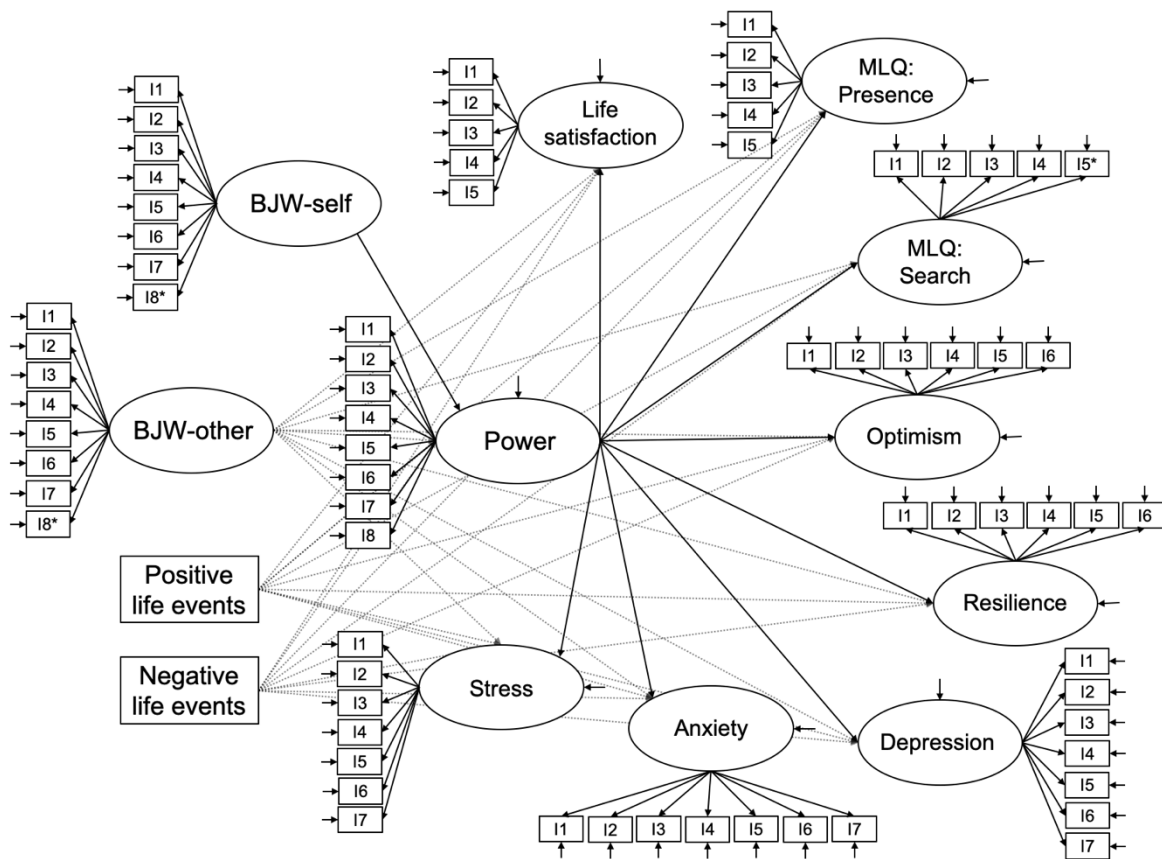


Figure 2.1 Conceptual diagram of the hypothesised latent variable structural equation model.

Note. * = items that were removed from the measurement model. Dashed faint lines indicate paths that were estimated to control for the variable but are not reported on. Covariances are not depicted. BJW-self = belief in a just world for the self; BJW-other = belief in a just world

for the other; MLQ: Presence = presence of meaning in life; MLQ: Search = search for meaning in life.

Positive and negative life events can have a significant influence on many of the outcomes of interest in this study, specifically measures of subjective wellbeing and distress. Furthermore, research suggests that both the experience and expectation of positive life events are associated with BAS functioning (Beevers & Meyer, 2002) and may therefore influence reports of power in the current study. In terms of distress, individuals have shown decreases in depressive symptoms following positive life events (Blonski et al., 2016) and people with high numbers of positive life events have been found to be more resilient to the depressive effects of stress (Haefffel & Vargas, 2011). In contrast, negative life events have been shown to increase hopelessness and depression (Zhou & Chen, 2017). A sense of meaning in life has also been shown to be connected with individuals experiencing more positive life events (Disabato et al., 2017). Given the potentially significant influence of positive and negative life events, we measured and controlled for the influence of these events in both Samples 1 and 2.

Additionally, while studying BJW-self, it is prudent to consider its association with BJW-other. Research indicates a moderate relationship between these two beliefs (Hafer et al., 2019). This association may arise as people subconsciously compare themselves to others while responding to questions about the justness of their own world, that is, using BJW-other as a reference point. While outcomes in the present research relate specifically to the self, it is possible that BJW-other may exert a confounding influence through its referential association with BJW-self. It is, therefore, important to control for any influence BJW-other may exert on these self-focused outcomes (as is standard practice; see Bartholomaeus & Strelan, 2016; Sutton et al., 2017). Across the analyses of the three samples we measured and statistically controlled for the effects of BJW-other.

2.2 Method

Below we describe the two independent samples and one subsample that comprise this investigation.

2.2.1 Participants

2.2.1.1 Sample 1

Participants were a sample of $N=355$ undergraduate students from a large Australian university who participated in the first wave measurement of a longitudinal study in exchange for course credit. Due to often high attrition rates in longitudinal studies we aimed to recruit as many participants as possible. Respondents with incomplete data were removed ($n=14$); $n=33$ respondents were removed for completing the survey more than once; and $n=1$ participant was removed because they were under the age of 18. The final sample consisted of 307 students (92 men, 212 women, 3 transgender, $M_{age}=20.7$, $SD=5.93$, age ranged from 18-to-62 years). The majority of participants were Australian (83%) and 88% spoke English as their primary language. Additionally, 71% of participants were not in a relationship and approximately half (53%) reported having no religion.

2.2.1.2 Sample 2

Participants were $N=450$ respondents from the Prolific website who participated for £1.00 (GBP; 246 men, 197 women, 3 transgender, 4 prefer not to answer, $M_{age}=32.1$, $SD=11.6$, age ranged from 18-to-73 years). Sample 2 recruitment occurred after data collection had closed for the other two samples. Participants were limited to those who currently resided in Australia and who had a Prolific approval rating of over 90%, indicating satisfactory participation in previous studies. The majority of participants reported their ethnicity as Australian (76%) and 96% spoke English as their primary language. Just under half of the participants were not in a relationship (46%), and 34% were either married or in a long-term relationship. Over half of the participants (60%) reported having no religion.

2.2.1.3 Subsample 3

All participants from Sample 1 (T1) were invited to complete the same survey again approximately one year later (T2), $N=110$ did so. They were compensated for their participation with \$15.00 (AUD) and the opportunity to win one of five prizes of \$100.00 (AUD). Respondents with >30% incomplete data were removed ($n=19$); $n=6$ duplicate observations were removed from the T2 survey (participants had filled out the survey twice, the initial survey response was retained, and the second attempt was deleted); and $n=2$ participants were removed as there was no record of them completing the T1 survey. The final sample consisted of 83 participants (23 men, 59 women, 1 transgender, $M_{age}=22.1$, $SD=8.92$, age ranged from 18-to-62 years). The majority of participants were Australian or New Zealander (76%) and 90% spoke English as their primary language. Further, 67% were not in a romantic relationship and approximately half (55%) reported having no religion.

2.2.2 Procedure

Participants completed all surveys online. Participants in Sample 1 accessed the survey from an internal university website; participants in Sample 2 accessed the survey on Prolific, an international participant recruitment website for psychology studies; and Subsample 3 participants accessed the survey via a link in a follow-up email. All participants first provided informed consent for their participation in the study. Participants in Samples 1 and 2 completed measures of BJW-self; BJW-others; power; life satisfaction; the presence and search for meaning in life; optimism; resilience; depression; anxiety; stress; and positive and negative life events (occurring over the past 12 months). Participants in Samples 1 and 2 then provided demographic information and participants in Sample 1 were offered the opportunity to opt-in to receive an invitation to the second measurement.

Participants in Subsample 3 completed a subset of the measures, including BJW-self; BJW-others; power; life satisfaction; optimism; resilience; depression; anxiety; and stress.

Participants completed the T2 measure approximately one year after the T1 measure ($M_{time}=54.7$ weeks, $SD=11.6$ weeks). Upon completion of the survey all participants were thanked for their participation and debriefed.

2.2.3 Measures

Scale reliabilities for all samples are provided in Table 2.1. Coefficient omega with $CI_{95\%}$ were calculated to estimate scale reliability (omega was estimated according to McNeish, 2018, as it is considered a more accurate measure of scale reliability compared to Cronbach's alpha). Test-retest reliability was calculated using zero-order correlations. All scales across all samples demonstrated acceptable internal reliability⁴. All scales showed acceptable test-retest reliability across the one-year period. It was expected that constructs subject to change over time (e.g., depressive symptoms) may result in weaker test-retest estimates compared to trait-level measures (optimism).

⁴ Reliabilities for the BJW-self, BJW-other, and meaning in life search scales were estimated using revised item sets as determined by the results of the measurement model estimated with Sample 1.

Table 2.1

Reliability Estimates for Scales Used with the Three Samples

	Sample 1		Sample 2		Subsample 3		Sample 1–Subsample 3 test-retest reliability	
	ωt	CI _{95%}	ωt	CI _{95%}	ωt	CI _{95%}	r	CI _{95%}
BJW-self	.91	.89, .93	.92	.90, .93	.91	.89, .94	.52	.34, .66
BJW-other	.88	.86, .91	.90	.89, .92	.93	.90, .95	.56	.39, .69
Power	.82	.78, .86	.86	.84, .89	.92	.90, .95	.76	.65, .84
Life satisfaction	.88	.86, .91	.89	.88, .91	.88	.84, .93	.67	.54, .78
MLQ: Presence	.90	.88, .92	.90	.88, .92	-	-	-	-
MLQ: Search	.88	.85, .91	.91	.90, .93	-	-	-	-
Optimism	.74	.69, .80	.83	.81, .86	.84	.77, .91	.74	.62, .82
Resilience	.87	.84, .90	.89	.87, .91	.88	.83, .92	.75	.63, .83
Depression	.90	.88, .92	.93	.92, .94	.93	.91, .96	.50	.32, .64
Anxiety	.85	.82, .87	.87	.85, .90	.86	.80, .91	.70	.57, .80
Stress	.85	.82, .88	.88	.86, .90	.87	.82, .92	.64	.49, .75

Note. BJW-self = belief in a just world for the self; BJW-other = belief in a just world for the other; MLQ: Presence = presence of meaning in life; MLQ: Search = search for meaning in life.

2.2.3.1 Belief in a just world

We measured both BJW-self and BJW-other using Lipkus et al.'s (1996) scale. Participants responded on a seven-point Likert scale (1=*completely disagree*, 7=*completely agree*). Each subscale consists of eight items. Sample items are, "I feel that the world treats me fairly" (*BJW-self*); "I feel that people earn the rewards and punishments they get" (*BJW-other*). For all scales, higher scores indicated a greater endorsement of the construct.

2.2.3.2 Sense of power

Participants' sense of power was measured using the eight-item Sense of Power Scale (Anderson et al., 2012). All items were responded to on Likert scale (1=*disagree strongly*, 7=*agree strongly*). A sample item is, "I think I have a great deal of power".

2.2.3.3 Life satisfaction

We measured life satisfaction using the five-item Satisfaction with Life Scale (Diener et al., 1985). All items were answered on a seven-point Likert scale (1=*strongly disagree*, 7=*strongly agree*). A sample item is, "I am satisfied with my life".

2.2.3.4 Meaning in Life

Presence and search for meaning in life were measured using the ten-item Meaning in Life Questionnaire (MLQ; Steger et al., 2006). Each subscale consisted of five items. All items are answered on a seven-point Likert scale (1=*absolutely untrue*, 7=*absolutely true*). Example items are, "I understand my life's meaning" (*presence*); "I am searching for meaning in my life" (*search*).

2.2.3.5 Optimism

We used the ten-item Life Orientation Test-Revised to measure optimism (LOT-R; Scheier et al., 1994). Six of the ten items measured optimism (the other four are filler items) and were answered on a five-point Likert scale (0=*I disagree a lot*, 4=*I agree a lot*). An example item is, "I'm always optimistic about my future".

2.2.3.6 Resilience

Resilience was measured using the Brief Resilience Scale (BRS; Smith et al., 2008). Responses were on a five-point Likert scale (1=*strongly disagree*, 5=*strongly agree*). An example item is, “I tend to bounce back quickly after hard times”.

2.2.3.7 Depression, Anxiety, and Stress

We measured depression, anxiety, and stress with the 21-item version of the Depression, Anxiety, and Stress Scale (DASS-21; Henry & Crawford, 2005). Participants responded on a four-point Likert scale (0=*did not apply to me at all*, 3=*applied to me very much or most of the time*). Each subscale consists of seven items. Sample items are, “I felt that life was meaningless” (*depression*); “I felt I was close to panic” (*anxiety*); and “I found it difficult to relax” (*stress*).

2.2.3.8 Positive and Negative Life Events

Positive and negative life events were measured using a scale developed by Disabato et al. (2017). Participants reported whether five positive and five negative life events had occurred to them in last 12 months and how much each of these events impacted their lives. A five-point Likert scale was used to measure participants’ responses. A response of 0=*did not happen* indicated that the event did not happen. A response of 1=*none* to 4=*a lot* indicated the event did occur and the extent to which it impacted the individual. Participants were also given free response questions in which they could record up to two other positive and two negative events that had happened. Sample items are, “You got emotionally closer to someone” (*positive event*); “You were injured or ill” (*negative event*). As per Disabato et al.’s (2017) recommendation we calculated each question as a dichotomous response, 1=‘happened’ or 0=‘did not happen’. Scores for each of the seven dichotomous scales were

then summed to give total count from 0 to 7 for the number of positive and negative life events, respectively, that had occurred over the past 12 months⁵.

2.2.4 Statistical Analysis

2.2.4.1 *Sample 1 Analysis*

To test the hypothesised model, we employed latent variable structural equation modelling (SEM). All modelling was conducted in MPlus Version 8.3 (Muthén & Muthén, 1998–2017). We began by estimating a measurement model for the 11 latent variables where all latent variables covaried and correlations between latent variables were freely estimated. To improve differentiation between the latent variables and overall model fit we sequentially removed items that displayed significant loadings on non-target factors or had multiple low cross loadings as indicated by the modification indices of each model. Decisions to remove items were made based on theory and are explained throughout the results section. Once an acceptable measurement model was obtained, we estimated the structural model, that is, the relationships between the latent variables. The resulting model provided information on the direct and indirect effects of BJW-self on power and all outcome variables. The structural model was not modified, thus the analysis stayed within a confirmatory framework.

Participants' reports of positive and negative life events and BJW-other were included in all models as control variables. As the data were ordinal (Likert scale) and some scales used only four response categories, we used a mean and variance adjusted weighted least squares estimator (WLSMV; as suggested by Sellbom & Tellegen, 2019). Indirect effects of BJW-self on outcome variables through power were confirmed using bootstrap generated 95% confidence intervals (1,000 iterations). Criteria for model fit were based on the recommendation of Marsh et al. (2004) of CFI and TLI > .90; RMSEA < .06; and SRMR < .08.

⁵ We initially loaded each Likert scale item on a respective positive or negative life event latent factor. However, the loadings of the items were low, and items showed poor reliability ($\omega_i < .70$). Disabato et al. (2017) suggests that life events should be measured as count variables. Given this advice and the poor outcome of latent factors we treated positive and negative life events as count variables.

Non-nested models were compared using the Akaike information criterion (AIC) and the Bayesian information criterion (BIC). Models with lower AIC and BIC were considered to provide a better fit to the data (Raftery, 1995)⁶. Criteria for judging the magnitude of statistically significant standardised path coefficients were: small, greater than .05; moderate, greater than .10; and large, greater than .25 (Keith, 2006).

Initially, data were inspected for linearity, homoscedasticity, multicollinearity, normality, and univariate and multivariate outliers. Linearity and homoscedasticity were confirmed for all associations between predictor and outcome variables and there was no multicollinearity amongst the variables. All variables were univariate normal except for depression and anxiety, which were positively skewed; as is standard when using the DASS-21 measure with a non-clinical population (Henry & Crawford, 2005). The WLSMV estimator is, however, robust to deviations from normality (Li, 2016). Finally, five multivariate and five univariate outliers were detected. Running the initial measurement model, and subsequently, the structural model without these outliers did not significantly alter the fit of either of the models or the strength of pathway estimates. Therefore, all outliers were retained in the final dataset in order to maintain power.

2.2.4.2 Sample 2 Analysis

We initially tested for differences between the samples on all demographic variables. To substantiate the proposed model and to ensure that it did not capitalise on chance or the specific characteristics of Sample 1, we fit the model to Sample 2. This phase of analysis verified the applicability of the model to a separate sample and thus allowed for increased confidence in its robustness and generalisability. To test the replicability of the structural regression model from Sample 1, we employed two steps. First, we began by refitting the

⁶ Mplus models using the WLSMV estimator do not generate AIC and BIC values. Therefore, we ran each model twice, once with the WLSMV estimator and once with the MLR estimator. The AIC and BIC values were drawn from the MLR models to enable non-nested comparison, as recommend by Muthén (2013).

structural model with Sample 2 and assessing overall model fit. Second, we determined whether loadings, path estimates, indirect effects, and latent factor variances of the model fit with Sample 2 fell within the CI_{99%} of those estimates from the model fit with Sample 1. Inspecting the overlap between estimates in this way enable a simple but robust comparison of the model across the two samples and provided an indication of the extent to which the models differed.

Linear relationships between the predictor and outcome variables were observed for all outcome variables. Homoscedasticity was also confirmed for all outcome variables; however, the prediction of search for meaning and optimism displayed borderline heteroscedasticity. No multicollinearity was observed between any of the variables, and all variables, except depression, anxiety, and stress (which showed positive skew), showed univariate normality. Residuals were slightly positively skewed for anxiety, otherwise they were normally distributed for all other outcome measures. Fifteen multivariate and no univariate outliers were identified. When the model was re-estimated excluding the multivariate outliers no substantial changes in model fit were observed, therefore, outliers were retained to preserve power.

2.2.4.3 Subsample 3 Analysis

Analysis of Subsample 3 was conducted in R (version 4.0.2). Initially we conducted a dropout analysis comparing the sample that continued in the study to the participants that did not on all demographic variables and all measured variables.

The sample size ($n=83$) was too small to conduct latent variable SEM, that is, to estimate both measurement and structural models. Therefore, we chose to compute scale scores for each variable and enter these into the structural SEM model; for each scale, items were averaged with higher scores indicating more endorsement of the construct. We used the revised item sets for BJW-self and BJW-other as determined by the estimation of the

measurement model with Sample 1. As this study was a half-longitudinal design (a longitudinal design with two time points) we computed longitudinal mediation using a modified model based on that suggested by Cole and Maxwell (2003). Using this model, we estimated the indirect effects of T1 BJW-self on all outcome variables through power by first regressing T2 power on T1 BJW-self (path *a*) and then regressing the six outcomes at T2 on T1 power (path *b*). For example, the indirect effect of T1 BJW-self on T2 life satisfaction through power can be calculated as the product of *ab*. Measures of each outcome at T1 were included in the model as covariates. We also investigated the direct effects of T1 BJW-self by regressing all T2 outcomes directly on T1 BJW-self. Bootstrap generated 95% confidence intervals (1,000 iterations; bias corrected) were computed for all direct and indirect effects. The direct effects of T1 BJW-other on all T2 outcomes was also included in the model.

All relationships between predictors and outcomes were linear. Homoscedasticity was confirmed for all associations between predictor and outcome variables except in the prediction of depression; a Breusch-Pagan test indicated non-constant error variance ($p < .001$). While heteroscedasticity does not bias coefficient estimates it does tend to effect significance testing. We comment on the interpretation of significance estimates for this sample in the discussion. There was no multicollinearity between the variables and all residuals were normally distributed. No multivariate or univariate outliers were detected.

2.3 Results

2.3.1 Sample 1

2.3.1.1 *The Measurement Model*

The initial measurement model specified 11 latent variables each with a varying number of observed items (Figure 2.1). The model showed acceptable fit to the data according to the standard cut-off criteria (refer to Table 2.2). However, the modification

indices (MIs) indicated that the model might be significantly improved by addressing a few spurious items.

Table 2.2

Fit Indices for the Iterative Modification of the Measurement Model in Sample 1

Model	χ^2	df	p	RMSEA	CI _{90%}	CFI	TLI	SRMR	AIC	BIC
Model 1	3787.0	2429	.000	.043	.040, .045	.927	.924	.065	60828.9	61838.9
Model 2	3646.5	2359	.000	.042	.039, .045	.930	.927	.064	59854.3	60853.1
Model 3	3490.7	2290	.000	.041	.039, .044	.935	.931	.063	58776.3	59763.9
Model 4	3385.3	2222	.000	.041	.038, .044	.936	.933	.062	57751.8	58728.3

MIIs for Model 1 indicated that the fifth item measuring the search for meaning (“I am searching for meaning in my life”) negatively loaded on the presence of meaning subscale. As this item appeared to represent both the presence and search for meaning in life, we removed it to improve the definition of both the presence and search latent variables. Model 2 showed decreased AIC and BIC values compared with Model 1 (Table 2.2; Δ AIC=-974.7; Δ BIC=- 985.9).

Inspection of MIIs for Model 2 indicated that if the eighth item measuring BJW-self (“I feel that when I meet with misfortune, I have brought it upon myself”) were allowed to negatively load on the other latent variables: optimism, life satisfaction, and presence of meaning life, model fit would improve. This item also loaded weakly on the target latent variable (β =.380), as was reported in the initial validation of the measure (Lipkus et al., 1996, Study 1). Given this rationale we removed this item from the model. Change in AIC and BIC (Table 2.2; Δ AIC=-1078.0; Δ BIC=-1089.2) indicated that the removal of item 8 substantially improved model fit.

The MIIs for Model 3 indicated that, similarly to Model 2, if the eighth item measuring BJW-other (“I feel that when people meet with misfortune, they have brought it upon themselves”) were allowed to cross load on the latent variables: life satisfaction, depression, and optimism, model fit would improve. This was not surprising as this item is similar in phrasing and content to BJW-self item 8. This item had the weakest loading on the target BJW-other latent variable and showed lower loadings in the scale’s development relative to the other seven items (Lipkus et al., 1996, Study 1). Given its lower target loading and the multiple cross-loadings we removed BJW-other item 8 from the model. Model 4 showed decreases in both AIC and BIC (Table 2.2; Δ AIC=-1024.4; Δ BIC=-1035.6). MIIs for Model 4 indicated that any further modifications provided diminished returns—in terms of improved

fit—and most were not justifiable on a theoretical basis. Therefore, we stopped model modification and moved on to estimating the structural paths.

2.3.1.2 The Structural Model

The structural model (Figure 2.1) was estimated. The model showed acceptable fit to the data $\chi^2(2350)=3673.0, p<.001, CFI=.924, TLI=.920, RMSEA=.043, CI_{90\%} [.040, .045], SRMR=.067$. Item loadings and errors are displayed in Table 2.3 and path estimates (direct and indirect effects), and latent factor residuals are displayed in Table 2.4.

Table 2.3

Item Loadings and Errors for the Structural Model fit with Samples 1 and 2

	Sample 1			Sample 2		
	β	CI _{99%}	Error	β	CI _{99%}	Error
BJW-self						
Item 1	.790	.668, .875	.376	.839	.772, .897	.295
Item 2	.821	.731, .890	.326	.782	.683, .854	.388
Item 3	.842	.730, .904	.290	.846	.772, .900	.284
Item 4	.762	.650, .852	.420	.729	.629, .808	.468
Item 5	.826	.751, .883	.317	.782	.687, .846	.388
Item 6	.775	.665, .852	.400	.732	.598, .807	.463
Item 7	.782	.654, .864	.389	.781	.692, .851	.390
BJW-other						
Item 1	.793	.705, .859	.372	.789	.714, .860	.377
Item 2	.741	.583, .837	.450	.807	.717, .868	.348
Item 3	.722	.609, .816	.478	.763	.681, .834	.417
Item 4	.683	.515, .791	.534	.759	.670, .821	.423
Item 5	.783	.664, .867	.387	.766	.674, .836	.413
Item 6	.789	.621, .872	.378	.809	.735, .864	.345
Item 7	.715	.595, .825	.489	.752	.649, .821	.434
Power						
Item 1	.670	.521, .786	.556	.682	.562, .771	.569
Item 2	.352	.133, .560	.878	.654	.512, .770	.605
Item 3	.551	.378, .690	.700	.570	.438, .689	.704
Item 4	.612	.377, .771	.630	.722	.603, .801	.513
Item 5	.573	.388, .715	.675	.611	.471, .729	.659
Item 6	.821	.721, .898	.330	.771	.664, .848	.439
Item 7	.708	.559, .815	.503	.789	.712, .850	.410

Item 8	.502	.317, .653	.751	.653	.523, .751	.606
Life satisfaction						
Item 1	.859	.774, .923	.291	.894	.841, .935	.251
Item 2	.721	.547, .814	.516	.814	.721, .875	.403
Item 3	.911	.846, .959	.191	.975	.943, 1.003	.065
Item 4	.776	.659, .856	.434	.805	.708, .871	.419
Item 5	.719	.596, .808	.519	.631	.467, .742	.667
MLQ: Presence						
Item 1	.838	.735, .900	.328	.810	.736, .881	.376
Item 2	.914	.858, .953	.185	.897	.837, .941	.218
Item 3	.854	.753, .908	.299	.847	.782, .902	.311
Item 4	.861	.802, .914	.287	.886	.818, .934	.239
Item 5	.737	.564, .855	.491	.712	.542, .816	.528
MLQ: Search						
Item 1	.807	.655, .886	.351	.836	.775, .885	.311
Item 2	.880	.781, .945	.227	.869	.814, .910	.255
Item 3	.823	.712, .895	.324	.889	.830, .936	.218
Item 4	.829	.720, .898	.315	.910	.857, .961	.180
Optimism						
Item 1	.516	.302, .656	.746	.614	.483, .721	.674
Item 2	.501	.315, .662	.761	.717	.589, .821	.542
Item 3	.632	.451, .779	.616	.760	.649, .852	.477
Item 4	.692	.535, .804	.537	.773	.662, .856	.458
Item 5	.630	.473, .737	.618	.683	.578, .770	.589
Item 6	.729	.575, .830	.485	.827	.748, .889	.366
Resilience						
Item 1	.825	.702, .902	.322	.867	.788, .924	.273
Item 2	.754	.625, .857	.435	.792	.680, .875	.403
Item 3	.794	.667, .872	.372	.811	.683, .884	.372
Item 4	.800	.681, .899	.362	.787	.700, .857	.412
Item 5	.654	.501, .774	.575	.759	.639, .839	.456
Item 6	.795	.681, .883	.371	.819	.740, .881	.358
Depression						
Item 1	.827	.723, .890	.335	.854	.794, .902	.327
Item 2	.664	.514, .755	.580	.737	.659, .804	.524
Item 3	.866	.787, .921	.267	.892	.849, .929	.252
Item 4	.856	.780, .907	.286	.888	.843, .926	.259
Item 5	.830	.730, .906	.330	.849	.786, .896	.336
Item 6	.901	.830, .949	.202	.887	.816, .929	.263
Item 7	.857	.754, .917	.283	.919	.875, .951	.193
Anxiety						
Item 1	.399	.187, .561	.850	.563	.423, .683	.724
Item 2	.757	.634, .848	.445	.765	.658, .843	.464

Item 3	.658	.537, .770	.584	.782	.673, .868	.437
Item 4	.776	.676, .852	.416	.837	.761, .898	.342
Item 5	.860	.763, .926	.274	.927	.870, .970	.167
Item 6	.767	.649, .851	.430	.773	.672, .858	.451
Item 7	.855	.783, .918	.283	.822	.714, .888	.369
Stress						
Item 1	.676	.476, .795	.558	.790	.723, .851	.422
Item 2	.679	.573, .779	.553	.753	.663, .830	.480
Item 3	.785	.676, .867	.397	.818	.736, .884	.374
Item 4	.765	.676, .843	.429	.764	.683, .831	.463
Item 5	.854	.771, .914	.282	.879	.819, .922	.263
Item 6	.757	.643, .855	.442	.760	.674, .836	.470
Item 7	.680	.545, .783	.552	.738	.639, .818	.502

Note. BJW-self = belief in a just world for the self; BJW-other = belief in a just world for the other; MLQ: Presence = presence of meaning in life; MLQ: Search = search for meaning in life.

Table 2.4

Path Estimates, Indirect Effects, and Latent Factor Variances for the Structure Model fit with Samples 1 and 2

	Sample 1		Sample 2	
	β	CI _{99%}	β	CI _{99%}
Path estimates				
BJW-self → Power	.722	.456, .984	.764	.642, .879
Power → Life satisfaction	.399	.216, .592	.501	.396, .603
Power → MLQ: Presence	.338	.168, .482	.345	.215, .472
Power → MLQ: Search	.172	.011, .342	-.051	-.201, .114
Power → Optimism	.572	.395, .734	.593	.461, .703
Power → Resilience	.289	.073, .437	.387	.214, .519
Power → Depression	-.437	-.598, -.278	-.394	-.504, -.269
Power → Anxiety	-.375	-.540, -.196	-.317	-.466, -.181
Power → Stress	-.245	-.402, -.081	-.264	-.398, -.129
Indirect effects				
BJW-self → Power → Life satisfaction	.288	.105, .455	.382	.277, .490
BJW-self → Power → MLQ: Presence	.244	.096, .408	.264	.158, .382
BJW-self → Power → MLQ: Search	.125	.010, .277	-.039	-.160, .088
BJW-self → Power → Optimism	.413	.201, .602	.453	.316, .556
BJW-self → Power → Resilience	.209	.060, .369	.295	.159, .416
BJW-self → Power → Depression	-.316	-.517, -.160	-.301	-.406, -.194
BJW-self → Power → Anxiety	-.271	-.456, -.123	-.242	-.367, -.136

BJW-self → Power → Stress	-.177	-.331, -.050	-.202	-.311, -.096
	Residual variance	CI _{99%}	Residual variance	CI _{99%}
Latent factor				
Power	.553	.301, .835	.414	.289, .540
Life satisfaction	.612	.461, .744	.410	.320, .529
MLQ: Presence	.720	.563, .845	.664	.554, .784
MLQ: Search	.956	.875, .995	.934	.865, .991
Optimism	.591	.417, .759	.428	.329, .554
Resilience	.907	.802, .989	.710	.584, .832
Depression	.711	.569, .844	.593	.492, .697
Anxiety	.789	.647, .919	.724	.618, .829
Stress	.862	.751, .945	.735	.633, .840

Note. BJW-self = belief in a just world for the self; BJW-other = belief in a just world for the other; MLQ: Presence = presence of meaning in life; MLQ: Search = search for meaning in life.

BJW-self had a large and positive direct effect on power. In turn, power had large positive direct effects on life satisfaction, the presence of meaning in life, optimism, and resilience. Power had a moderate positive direct effect on the search for meaning in life. Power had large negative direct effects on depression and anxiety, and a moderate negative direct effect on stress.

In terms of indirect effects, BJW-self exerted a significant influence on all eight outcome variables through the latent power variable. BJW-self had a strong positive indirect effect through power on life satisfaction and optimism; a positive moderate indirect effect on the presence of meaning in life, the search for meaning in life, and resilience. BJW-self had a large negative indirect effect on depression and anxiety, and a moderate negative indirect effect on stress⁷.

The structural model explained an acceptable proportion of variance in each of the endogenous variables except for the search for meaning in life and resilience. These two

⁷ We also ran the structural model excluding the control variables—BJW-other, positive life events, and negative life events. This model showed no substantial differences in model fit and no significant changes in the path estimates for direct or indirect effects.

latent variables had standardized disturbance $>.90$, indicating that the majority of their variance was unexplained by the model.

2.3.2 Sample 2

2.3.2.1 Comparing the Demographic Characteristics of Samples 1 and 2

Sample 1 and 2 differed significantly in their demographic profile. Sample 1 had a higher proportion of females (70%) compared to Sample 2 (45%), $\chi^2(3)=47.4, p<.001$. Participants in Sample 1 were, on average, younger than Sample 2, $t(706.9)=-17.7, p<.001$. Additionally, a higher proportion of participants in Sample 1 reported their ethnicity as Australian (83%) compare to Sample 2 participants (76%), $\chi^2(1)=5.78, p=.016$. A smaller proportion of Sample 1 (88%) spoke English as their first language compared to Sample 2 (96%), $\chi^2(1)=20.2, p<.001$, and a larger proportion of Sample 1 (71%) were not in a romantic relationship compared to Sample 2 (46%), $\chi^2(1)=46.8, p<.001$. In contrast, there was no significant differences between samples in the proportion of participants that were religious, $\chi^2(1)=3.23, p=.072$.

2.3.2.2 Structural Model Replication

The final structural model from Sample 1 (Model 4, Table 2.2; Figure 2.1) was fit to Sample 2. The model showed acceptable fit to the data, $\chi^2(2350)=4785.3, p<.001$, CFI=.912, TLI=.907, RMSEA=.048, CI_{90%} [.046, .050], SRMR=.074. BJW-self had a large and positive direct effect on power. In turn, power had large positive direct effects on life satisfaction, the presence of meaning in life, optimism, and resilience. Power had a small positive direct effect on the search for meaning in life and large negative direct effects on depression, anxiety, and stress (refer to Tables 2.3 and 2.4 for model estimates).

BJW-self demonstrated a strong positive indirect effect on life satisfaction, the presence of meaning in life, optimism, and resilience. BJW-self had a negligible indirect effect on the search for meaning in life but a large negative indirect effect on depression and

a moderate indirect effect on both anxiety and stress. The structural model explained an acceptable proportion of variance in each of the endogenous variables except for the search for meaning in life which had a standardized disturbance $>.90$.

2.3.2.3 Comparing Model Estimates

The majority of Sample 2 model estimates displayed overlap with those of Sample 1 (refer to Tables 2.3 and 2.4 for model estimates). The following items, however, all loaded significantly higher on their respective latent constructs in Sample 2 compared to Sample 1: power item 2, life satisfaction item 3, meaning in life search item 4, optimism item 2, depression item 7, and anxiety items 1, 3, and 5. In terms of the structural model, only the direct effect of power on the search for meaning in life and, by extension, the indirect effect of BJW-self on search for meaning in life through power were substantially different between the samples. While in Sample 1 the direct and indirect effects on search for meaning in life were positive and moderate, they were negligible and negative in Sample 2. Additionally, life satisfaction, resilience, and stress all had significantly lower latent factor residual variances in Sample 2 when compared to Sample 1, indicating that the model accounted for substantially more of the variance of these latent factors in Sample 2 than in Sample 1.

2.3.3 Subsample 3

2.3.3.1 Dropout Analysis

Participants who responded to both T1 and T2, forming the longitudinal sample ($n=83$), and participants who did not respond at T2 ($n=224$), were compared on demographic and outcome variables. There were no significant differences between the samples in gender, $\chi^2(2)=0.32, p=.85$; age, $t(96.1)=-1.81, p=.07$; ethnicity, $\chi^2(1)=0.40, p=.53$; language, $\chi^2(1)=0.63, p=.43$; relationship status $\chi^2(1)=0.83, p=.36$; or religion $\chi^2(1)=0.18, p=.67$. Further, a multivariate analysis of variance (MANOVA) indicated no significant differences

between the samples in any of the outcome variables as measured at T1, Pillai's $V=0.03$, $F(1, 305)=1.0$, $p=.44$, $\eta^2_{\text{partial}}=.03$.

2.3.3.2 Half-longitudinal Mediation Analysis

The direct effects of T1 predictors variables on T2 outcome variables are depicted in Figure 2.2. T1 BJW-self had a negligible direct effect on T2 power. T1 power had a large and significant direct effect on T2 optimism and had a moderate and significant direct effect on T2 resilience. T1 power had moderate and non-significant direct effects on all other outcome variables.

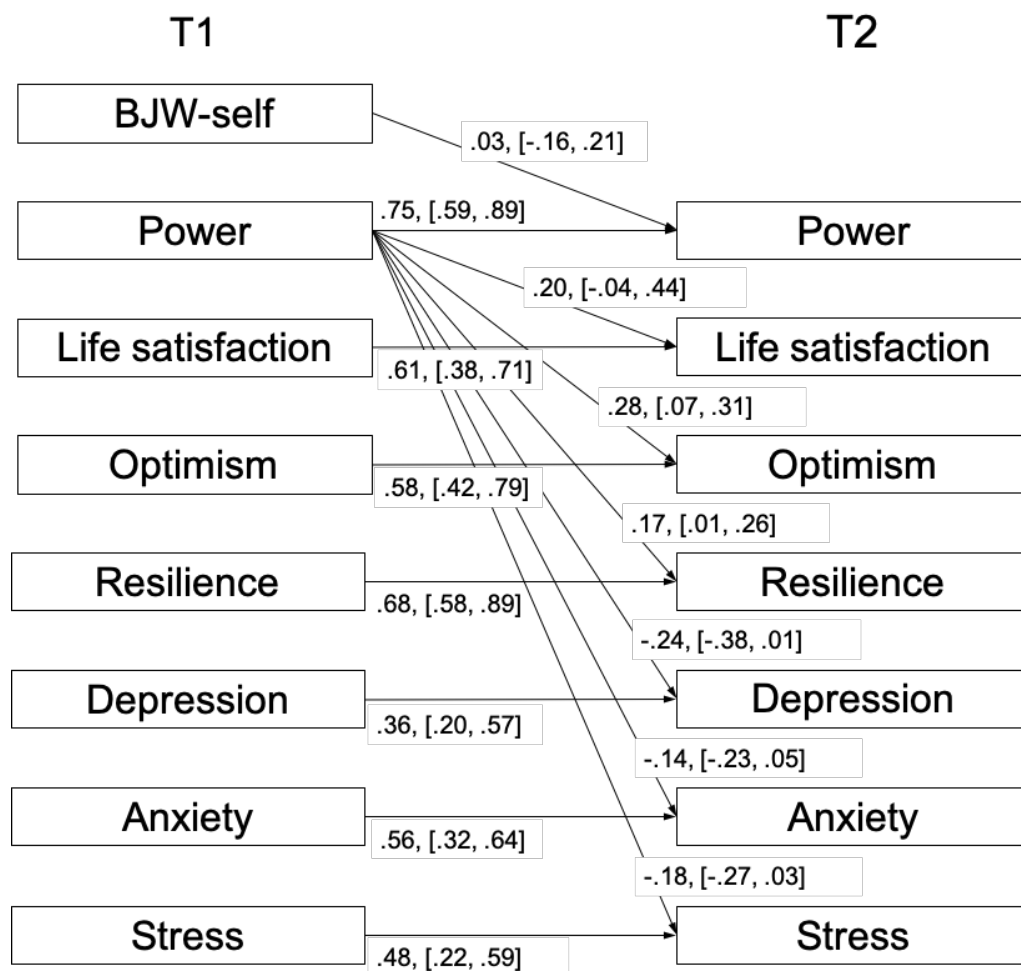


Figure 2.2 The direct effects of T1 predictors on T2 outcomes.

Note. All path estimates are standardised beta coefficients with $CI_{95\%}$ in square brackets.

Control of BJW-other not depicted. BJW-self = belief in a just world for the self.

T1 BJW-self had negligible and non-significant indirect effects through T1 power on all T2 outcome variables: T2 life satisfaction, $\beta=.005$, $p=.81$, $CI_{95\%} [-.034, .072]$; T2 optimism, $\beta=.008$, $p=.81$, $CI_{95\%} [-.036, .049]$; T2 resilience, $\beta=.005$, $p=.81$, $CI_{95\%} [-.022, .032]$; T2 depression, $\beta=-.007$, $p=.80$, $CI_{95\%} [-.054, .027]$; T2 anxiety, $\beta=-.004$, $p=.83$, $CI_{95\%} [-.037, .010]$; and T2 stress, $\beta=-.005$, $p=.81$, $CI_{95\%} [-.038, .015]$.

T1 BJW-self had moderate (non-significant) direct effects on T2 optimism, $\beta=.110$, $p=.28$, $CI_{95\%} [-.070, .196]$; T2 depression, $\beta=-.212$, $p=.08$, $CI_{95\%} [-.303, .019]$; and T2 anxiety, $\beta=-.147$, $p=.29$, $CI_{95\%} [-.218, .061]$. T1 BJW-self had a small direct effect on T2 stress, $\beta=-.084$, $p=.52$, $CI_{95\%} [-.206, .089]$. Finally, T1 BJW-self had negligible direct effects on T2 life satisfaction, $\beta=.013$, $p=.90$, $CI_{95\%} [-.232, .208]$ and T2 resilience, $\beta=.005$, $p=.96$, $CI_{95\%} [-.124, .152]$.

2.4 Discussion

2.4.1 Overview of findings

This study provides both confirmatory and ambiguous evidence for the associations between BJW-self, empowerment, and adaptive psychological functioning. In Sample 1, the hypothesised measurement model (with three modifications) fit the data well. The structural model showed that through a sense of empowerment, BJW-self was associated with life satisfaction, the presence and search for meaning in life, optimism, resilience, depression, stress, and anxiety. In Sample 2, we replicated the findings from Sample 1, with the model showing adequate fit to a sample that differed significantly on the majority of demographic characteristics from Sample 1. In Subsample 3, however, the model did not display evidence of temporal predictive validity across a one-year period, insofar as BJW-self did not predict power over time and both BJW-self and power showed inconsistent relations with the outcome variables over time.

2.4.2 Theoretical Implications

The first, and central, contribution of this study has been to show that BJW-self provides a framework for understanding adaptive psychological functioning. These findings are consistent with a large literature on the benefits of BJW-self (for a review see Bartholomaeus & Strelan, 2019). These findings provide empirical support for the notion that people who subscribe to BJW-self see the world in terms of deservingness and justice, and that interpreting life through this framework is adaptive when one's focus is on the self. However, when focused on others, it appears that this framework can simultaneously lead to negative social outcomes (i.e., BJW-other; see Hafer & Sutton, 2016 for review). Further, these findings suggest that an important aspect of adaptive functioning is the individual's perception of the world and that any investigation of the antecedents of adaptive psychological functioning requires the consideration of the individual's world views.

Another contribution of this study is in providing empirical evidence for the empowering function of BJW-self and demonstrating its importance for adaptive psychological functioning. While the empowering function of BJW has been present in the theoretical literature since justice motive theory was formally introduced (Lerner, 1980), it has since gone without empirical validation. Our findings from Samples 1 and 2 suggest that people who more strongly endorse a world view which provides them with a coherent interpretation of random and unjust events feel a sense of empowerment and therefore experience psychological benefits. These findings align with the studies showing that BJW-self is associated with a sense of control (a similar construct to power), and that this sense of control also leads to positive functioning (Fischer & Holz, 2010; Scholz & Strelan, 2020; Ucar et al., 2019; Yu et al., 2018).

Although we found evidence to support our hypotheses that BJW-self predicts positive functioning through empowerment, there were, nonetheless, some discrepant findings that require comment. We address these in the following sections.

2.4.3 The Search for Meaning in Life

The indirect effects of BJW-self on the search for meaning in life differed significantly between Samples 1 and 2. While in Sample 1 there was a weak but significant indirect association between BJW-self and search for meaning, in Sample 2 this association was negative, negligible, and non-significant. Commensurately, in both samples search for meaning in life had a large residual latent factor variance ($>.90$), indicating that across samples the model did not explain a large portion of this factor's variance. The weak association in Sample 1 and the negligible association in Sample 2 combined with the large residual variances may indicate that the empowering function of BJW-self has a small ineffectual association with the search for meaning in life.

An endorsement of BJW-self provides a sense that one understands the world (Lerner, 1980). Intuitively, if an individual feels as though they have found a sense of meaning in life, they would be less likely to keep searching for it. While evidence suggests that both the search and presence for meaning in life are important (Steger et al., 2011), the scales of search and presence tend to be negatively correlated, indicating that they are mutually exclusive (Steger et al., 2006). On this basis we can interpret the results across the models, it is likely that BJW-self has a small to negligible relationship with the search for meaning in life as those who endorse BJW-self already feel as though they have a sense of meaning.

2.4.4 Significant Differences in Model Estimates Between Samples 1 and 2

When comparing models across the samples, a number of estimates differed significantly between them. Eight of a total 69 item loadings (12%) were significantly stronger in Sample 2 compared to Sample 1. There was no discernible pattern to these

increased loadings in Sample 2. When comparing so many loadings across two random samples a level of random variation is to be expected. It is likely that the differences between the models, in terms of loadings, can be attributed to this random variation. Further interpretation of the differences in loadings between the models is speculative.

Life satisfaction, resilience, and stress had smaller latent residual variances in Sample 2 compared to Sample 1. Notably, in Sample 1 resilience had a latent residual variance $>.90$, which reduced in Sample 2. In other words, the model explained more of the variance of these outcomes in the Sample 2 compared to Sample 1. While, again, these differences may be due to chance variation in the data, the age and life circumstances of the participants may provide a more systematic explanation for these findings. At a younger age, external life circumstances, such as the pressure of tertiary study, may play a bigger role in determining evaluations of life satisfaction, resilience, and stress. At an older age, life experience and cognitive development may lead older adults to draw more on internal resources when making judgements about these aspects of their lives (Siu et al., 2001).

2.4.5 Longitudinal Findings

In contrast to the findings from Samples 1 and 2, the analysis of Subsample 3 did not provide strong support for the effects of the empowering function of BJW-self over time. The small sample size makes it difficult to draw firm conclusions from this analysis as the lower statistical power increases the range of the confidence intervals, thus decreasing confidence that the point estimates accurately represent the true value in the population. Any discussion of significance according to the $CI_{95\%}$ or the p-value is likely erroneous. Therefore, we restrict our comments to cautiously interpreting the general patterns of the effect size estimates.

BJW-self had a negligible effect on power over time. This finding is difficult to rationalise when BJW-self has shown a strong association with power in both Samples 1 and

2 as well as in other studies (see Bartholomaeus et al., under review). In the analysis we used SEM to estimate the proportion of covariance that existed between variables. When predicting the T2 outcomes we accounted for the T1 measurement of those outcome variables (as recommended by Cole & Maxwell, 2003). However, in doing so, the prediction of any increased variance in the T2 outcome, beyond what is accounted for by the T1 measurement of that outcome, makes the predication an estimate of change over time. If traits, such as the endorsement of BJW-self and power, did not change over time then there would be no increased variance at T2 to predict, as the T1 measure of that variable would account for the majority of the variance. Therefore we suggest that, as power was relatively stable over the course of the study, in accounting for T1 measures of power there was no more variance to be accounted for at T2 by BJW-self thus leading to the negligible observed effect size.

T1 power did show a large direct effect on T2 optimism, and moderate associations with all other T2 variables. This suggests that, for this sample, power did have a substantial association with increased adaptive functioning over time. Similarly, T1 BJW-self had moderate direct effects on T2 optimism, depression, and anxiety; and a small direct effect on T2 stress. This indicates that, again for this sample, T1 BJW-self did lead to a general increase in these components of adaptive functioning over time.

2.4.6 Limitations

In the present investigation the primary confirmatory findings are drawn from cross-sectional samples. It is not possible to draw causal inferences from these data. However, the analysis technique we employed and the replication of the model across two demographically diverse samples adds validity to these findings. Latent variable SEM accounts for error within the measurement of each construct and provides more accurate estimates of the relationships between latent variables compared to non-latent techniques. The model fit indices further provide a measure of how accurately the model represents the associations

within the data. Additionally, we were able to replicate our model across two samples that differed significantly in gender, age, ethnicity, primary language, and relationship status. This indicates that the model is applicable across populations and was not overly modified with the initial sample. Taken together, the use of latent variable SEM and the replication of the model across samples provide a good indication of the robustness and generalisability of this model.

As noted above, Subsample 3 was small. The sample size limits the conclusions that can be drawn from this analysis. However, this analysis warranted reporting as longitudinal research on the temporal change and predictive validity of BJW-self is sparse, but much needed. We are aware of only a handful of BJW studies that employ longitudinal designs (see Bartholomaeus & Strelan, 2019 for review). The main body of theory (within the individual differences paradigm) on the nature and causal role of BJW-self is based predominately on cross-sectional studies. Therefore, longitudinal research with well-powered samples is required to empirically validate the theoretical assertions surrounding BJW-self as the causal agent for a variety of adaptive emotions, cognitions, and behaviours. Further, given that individual differences research in BJW grew out of findings from experimental manipulations, longitudinal research is required to further demarcate between the BJW outcomes that can be attributed to the characteristics of the person and the outcomes that can be attributed to the characteristics of the situation.

2.4.7 Future research

We have provided evidence for the power function of BJW-self. This function, we suggest, sits alongside the assimilation, motivation, and trust functions (see Dalbert, 2001). However, there is no empirical evidence on how these functions might compete or interact to produce various outcomes. For example, we have shown here that the power function leads to a sense of meaning in life through BAS activation, which produces the motivation to seek

rewards. However, the assimilation function may also produce a sense of meaning. When confronted with random or unjust circumstances BJW-self prompts people to interpret the event in terms of cause and effect, thus placing the event within their understanding of a just world. It is possible that this mechanism of assimilating experiences into a just world framework, that is assigning causes to observed outcomes, may produce a sense of meaning in life. Future research could investigate whether the power and assimilation functions compete or interact to produce a sense of meaning in life. More broadly, future research might explore if and how the power, assimilation, motivation, and trust functions interact to produce adaptive outcomes.

The eighth items for both the BJW-self and BJW-other scales showed a tendency to load on a number of non-target latent factors. This finding brings into scope two larger underlying measurement issues in just world scholarship. First, there has not been an independent psychometric validation of the BJW-self/other scales since they were initially published (Lipkus et al., 1996). Second, there is no clarity on whether the self/other domains are analogous to personal and general domains of another popular just world measure developed by Dalbert (1999). This common assumption may turn out to be false. To improve the state of measurement in BJW research future studies might (a) use modern psychometric techniques to revalidate the self/other scales and to determine whether they differ to the personal/general scales. A technique such as invariance testing would shed light on differential item functioning and whether these BJW scales measure equitably across various demographics. And (b) we encourage researchers using the self/other scales to, where possible, report fit indices for self/other measurement models.

2.5 Conclusion

In this study we have found the endorsement of BJW-self to be associated with a sense of power, and through this mechanism, associated with adaptive psychological

functioning as represented by a diverse range of constructs. Our findings extend current just world theorising by suggesting that a sense of power is the pivotal mechanism by which BJW-self promotes general adaptive functioning. Methodologically, we have highlighted the importance of well-designed and well-powered longitudinal studies for BJW research. These findings are important as, while there is much scholarship on the benefits associated with an adaptive mental state, there is less scholarship on the worldviews and perceptions that give rise to such adaptive states. BJW, as suggested by Lerner and Simmons (1966), is perhaps an unlikely place to look for an explanation of the antecedents of adaptive functioning, but our findings have shown that it provides a unique insight into how an individual's perception of the world colours their interpretation of events, and how these interpretations are important for positive functioning.

References

- Alt, D. (2014). Assessing the connection between students' justice experience and attitudes toward academic cheating in higher education new learning environments. *Journal of Academic Ethics, 12*(2), 113–127. <https://doi.org/10.1007/s10805-014-9202-6>
- Anderson, C., & Galinsky, A. D. (2006). Power, optimism, and risk-taking. *European Journal of Social Psychology, 36*(4), 511–536. <https://doi.org/10.1002/ejsp.324>
- Anderson, C., John, O. P., & Keltner, D. (2012). The personal sense of power. *Journal of Personality, 80*(2), 313–344. <https://doi.org/10.1111/j.1467-6494.2011.00734.x>
- Bartholomaeus, J., & Strelan, P. (2016). Just world beliefs and forgiveness: The mediating role of implicit theories of relationships. *Personality and Individual Differences, 96*, 106–110. <https://doi.org/10.1016/j.paid.2016.02.081>
- Bartholomaeus, J., & Strelan, P. (2019). The adaptive, approach-oriented correlates of belief in a just world for the self: A review of the research. *Personality and Individual Differences, 151*, 109485. <https://doi.org/10.1016/j.paid.2019.06.028>
- Bartholomaeus, J., Strelan, P., & Burns, N. (2021). Looking on the bright side: Belief in a just world for the self empowers more positive and less negative affect [Manuscript submitted for publication]. School of Psychology, The University of Adelaide.
- Beevers, C. G., & Meyer, B. (2002). Lack of positive experiences and positive expectancies mediate the relationship between BAS responsiveness and depression. *Cognition & Emotion, 16*(4), 549–564. <https://doi.org/10.1080/02699930143000365>
- Bègue, L. (2002). Beliefs in justice and faith in people: Just world, religiosity, and interpersonal trust. *Personality and Individual Differences, 32*(3), 375–382. [https://doi.org/10.1016/S0191-8869\(00\)00224-5](https://doi.org/10.1016/S0191-8869(00)00224-5)
- Blonski, S. C., Conradi, H. J., Oldehinkel, A. J., Bos, E. H., & de Jonge, P. (2016). Associations between negative and positive life events and the course of depression: A detailed repeated-

assessments study. *The Journal of Nervous and Mental Disease*, 204(3), 175–180.

<https://doi.org/10.1097/NMD.0000000000000445>

Bombari, D., Schmid Mast, M., & Bachmann, M. (2017). Felt power explains the link between position power and experienced emotions. *Emotion*, 17(1), 55–66.

<https://doi.org/10.1037/emo0000207>

Campbell-Sills, L., Liverant, G. I., & Brown, T. A. (2004). Psychometric evaluation of the behavioral inhibition/behavioral activation scales in a large sample of outpatients with anxiety and mood disorders. *Psychological Assessment*, 16(3), 244–254.

<https://doi.org/10.1037/1040-3590.16.3.244>

Carver, C. S., Scheier, M. F., & Segerstrom, S. C. (2010). Optimism. *Clinical Psychology Review*, 30(7), 879–889. <https://doi.org/10.1016/j.cpr.2010.01.006>

Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology*, 67(2), 319–333. <https://doi.org/10.1037/0022-3514.67.2.319>

Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: Questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology*, 112(4), 558–577. <https://doi.org/10.1037/0021-843X.112.4.558>

Correia, I., & Dalbert, C. (2007). Belief in a just world, justice concerns, and well-being at Portuguese schools. *European Journal of Psychology of Education*, 22(4), 421–437.

<https://doi.org/10.1007/BF03173464>

Dalbert, C. (1999). The world is more just for me than generally: About the personal belief in a just world scale's validity. *Social Justice Research*, 12(2), 79–98.

<https://doi.org/10.1023/A:1022091609047>

Dalbert, C. (2001). *The justice motive as a personal resource: Dealing with challenges and critical life events*. Kluwer Academic/Plenum Publishers.

- Dalbert, C., & Filke, E. (2007). Belief in a personal just world, justice judgments, and their functions for prisoners. *Criminal Justice and Behavior*, 34(11), 1516–1527.
<https://doi.org/10.1177/0093854807306835>
- Dennis, J. P., & Vander Wal, J. S. (2010). The cognitive flexibility inventory: Instrument development and estimates of reliability and validity. *Cognitive Therapy and Research*, 34(3), 241–253. <https://doi.org/10.1007/s10608-009-9276-4>
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71–75.
https://doi.org/10.1207/s15327752jpa4901_13
- Disabato, D. J., Kashdan, T. B., Short, J. L., & Jarden, A. (2017). What predicts positive life events that influence the course of depression? A longitudinal examination of gratitude and meaning in life. *Cognitive Therapy and Research*, 41(3), 444–458.
<https://doi.org/10.1007/s10608-016-9785-x>
- Donat, M., Dalbert, C., & Kamble, S. V. (2014). Adolescents' cheating and delinquent behavior from a justice-psychological perspective: The role of teacher justice. *European Journal of Psychology of Education*, 29(4), 635–651. <https://doi.org/10.1007/s10212-014-0218-5>
- Dzuka, J., & Dalbert, C. (2007). Student violence against teachers: Teachers' well-being and the belief in a just world. *European Psychologist*, 12(4), 253–260. <https://doi.org/10.1027/1016-9040.12.4.253>
- Fast, N. J., Gruenfeld, D. H., Sivanathan, N., & Galinsky, A. D. (2009). Illusory control: A generative force behind power's far-reaching effects. *Psychological Science*, 20(4), 502–508.
<https://doi.org/10.1111/j.1467-9280.2009.02311.x>
- Fischer, A. R., & Holz, K. B. (2010). Testing a model of women's personal sense of justice, control, well-being, and distress in the context of sexist discrimination. *Psychology of Women Quarterly*, 34(3), 297–310. <https://doi.org/10.1111/j.1471-6402.2010.01576.x>

- Furnham, A., & Procter, E. (1989). Belief in a just world: Review and critique of the individual difference literature. *British Journal of Social Psychology*, 28(4), 365–384.
<https://doi.org/10.1111/j.2044-8309.1989.tb00880.x>
- Galinsky, A. D., Rucker, D. D., & Magee, J. C. (2015). Power: Past findings, present considerations, and future directions. In M. Mikulincer, P. R. Shaver, J. A. Simpson, & J. F. Dovidio (Eds.), *APA handbook of personality and social psychology: Vol. 3. Interpersonal relations* (pp. 421–460). American Psychological Association.
- Genet, J. J., & Siemer, M. (2011). Flexible control in processing affective and non-affective material predicts individual differences in trait resilience. *Cognition and Emotion*, 25(2), 380–388. <https://doi.org/10.1080/02699931.2010.491647>
- Haefel, G. J., & Vargas, I. (2011). Resilience to depressive symptoms: The buffering effects of enhancing cognitive style and positive life events. *Journal of Behavior Therapy and Experimental Psychiatry*, 42(1), 13–18. <https://doi.org/10.1016/j.jbtep.2010.09.003>
- Hafer, C. L., & Bègue, L. (2005). Experimental research on just-world theory: Problems, developments, and future challenges. *Psychological Bulletin*, 131(1), 128–167.
<https://doi.org/10.1037/0033-2909.131.1.128>
- Hafer, C. L., Busseri, M. A., Rubel, A. N., Drolet, C. E., & Cherrington, J. N. (2019). A latent factor approach to belief in a just world and its association with well-being. *Social Justice Research*, 33, 1–17. <https://doi.org/10.1007/s11211-019-00342-8>
- Hafer, C. L., & Sutton, R. (2016). Belief in a just world. In C. Sabbagh & M. Schmitt (Eds.), *Handbook of social justice theory and research* (pp. 145–160). Springer.
https://doi.org/10.1007/978-1-4939-3216-0_8
- Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample.

British Journal of Clinical Psychology, 44(2), 227–239.

<https://doi.org/10.1348/014466505X29657>

Hone, L. C., Jarden, A., Schofield, G. M., & Duncan, S. (2014). Measuring flourishing: The impact of operational definitions on the prevalence of high levels of wellbeing. *International Journal of Wellbeing*, 4(1), 62–90. <https://doi.org/10.5502/ijw.v4i1.4>

Inesi, M. E. (2010). Power and loss aversion. *Organizational Behavior and Human Decision Processes*, 112(1), 58–69. <https://doi.org/10.1016/j.obhdp.2010.01.001>

Kamble, S. V., & Dalbert, C. (2012). Belief in a just world and wellbeing in Indian schools. *International Journal of Psychology*, 47(4), 269–278.

<https://doi.org/10.1080/00207594.2011.626047>

Keith, T. Z. (2006). *Multiple regression and beyond*. Boston, MA: Pearson Education.

Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition.

Psychological Review, 110(2), 265–284. <https://doi.org/10.1037/0033-295X.110.2.265>

Lammers, J., Stoker, J. I., Rink, F., & Galinsky, A. D. (2016). To have control over or to be free from others? The desire for power reflects a need for autonomy. *Personality and Social Psychology Bulletin*, 42(4), 498–512. <https://doi.org/10.1177/0146167216634064>

Leach, S., & Weick, M. (2018). From grumpy to cheerful (and back): How power impacts mood in and across different contexts. *Journal of Experimental Social Psychology*, 79, 107–114.

<https://doi.org/10.1016/j.jesp.2018.05.004>

Leach, S., Weick, M., & Lammers, J. (2017). Does influence beget autonomy? Clarifying the relationship between social and personal power. *Journal of Theoretical Social Psychology*,

1(1), 5–14. <https://doi.org/10.1002/jts5.5>

Lerner, M. J. (1980). *The Belief in a Just World: A Fundamental Delusion*. Springer US.

- Lerner, M. J., & Miller, D. T. (1978). Just world research and the attribution process: Looking back and ahead. *Psychological Bulletin*, 85(5), 1030–1051. <https://doi.org/10.1037/0033-2909.85.5.1030>
- Lerner, M. J., Miller, D. T., & Holmes, J. G. (1976). Deserving and the emergence of forms of justice. In L. Berkowitz & E. Walster (Eds.), *Advances in experimental social psychology* (Vol. 9, pp. 133–162). Elsevier.
- Lerner, M. J., & Simmons, C. H. (1966). Observer's reaction to the "innocent victim": Compassion or rejection? *Journal of Personality and Social Psychology*, 4(2), 203–210. <https://doi.org/10.1037/h0023562>
- Li, C.H. (2016). Confirmatory factor analysis with ordinal data: Comparing robust maximum likelihood and diagonally weighted least squares. *Behavior Research Methods*, 48(3), 936–949. <https://doi.org/10.3758/s13428-015-0619-7>
- Linley, P. A., Maltby, J., Wood, A. M., Osborne, G., & Hurling, R. (2009). Measuring happiness: The higher order factor structure of subjective and psychological well-being measures. *Personality and Individual Differences*, 47(8), 878–884. <https://doi.org/10.1016/j.paid.2009.07.010>
- Linton, M. J., Dieppe, P., & Medina-Lara, A. (2016). Review of 99 self-report measures for assessing well-being in adults: Exploring dimensions of well-being and developments over time. *BMJ Open*, 6(7), 1–16. <https://doi.org/10.1136/bmjopen-2015-010641>
- Lipkus, I. M., Dalbert, C., & Siegler, I. C. (1996). The importance of distinguishing the belief in a just world for self versus for others: Implications for psychological well-being. *Personality and Social Psychology Bulletin*, 22(7), 666–677. <https://doi.org/10.1177/0146167296227002>
- Lyubomirsky, S., King, L. A., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, 131, 803–855.

- Marsh, H. W., Hau, K. T., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling, 11*(3), 320–341.
https://doi.org/10.1207/s15328007sem1103_2
- Marsh, H. W., Huppert, F. A., Donald, J. N., Horwood, M. S., & Sahdra, B. K. (2020). The well-being profile (WB-Pro): Creating a theoretically based multidimensional measure of well-being to advance theory, research, policy, and practice. *Psychological Assessment, 32*(3), 294–313. <https://doi.org/10.1037/pas0000787>
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*(4), 370–396.
<https://doi.org/10.1037/h0054346>
- McNeish, D. (2018). Thanks coefficient alpha, we'll take it from here. *Psychological Methods, 23*(3), 412–433. <https://doi.org/10.1037/met0000144>
- Mealer, M., Conrad, D., Evans, J., Jooste, K., Solyntjes, J., Rothbaum, B., & Moss, M. (2014). Feasibility and acceptability of a resilience training program for intensive care unit nurses. *American Journal of Critical Care, 23*(6), 97–105. <https://doi.org/10.4037/ajcc2014747>
- Muthén, L.K. (2013, January 7). Comparing CFA models [Online discussion group].
<http://www.statmodel.com/discussion/messages/9/1190.html?1521234107>
- Muthén, L.K. and Muthén, B.O. (1998-2017). *Mplus User's Guide*. Eighth Edition. Los Angeles, CA: Muthén & Muthén
- Newman, D. B., Nezlek, J. B., & Thrash, T. M. (2018). The dynamics of searching for meaning and presence of meaning in daily life. *Journal of Personality, 86*(3), 368–379.
<https://doi.org/10.1111/jopy.12321>
- Nezlek, J. B. (2011). *Multilevel modeling for social and personality psychology*. Thousand Oaks, CA: Sage Publications.

- Nudelman, G., Otto, K., & Dalbert, C. (2016). Can belief in a just world buffer mood and career prospects of people in need of risk protection? First experimental evidence. *Risk Analysis*, 36(12), 2247–2257. <https://doi.org/10.1111/risa.12588>
- Otto, K., Boos, A., Dalbert, C., Schops, D., & Hoyer, J. (2006). Posttraumatic symptoms, depression, and anxiety of flood victims: The impact of the belief in a just world. *Personality and Individual Differences*, 40(5), 1075–1084. <https://doi.org/10.1016/j.paid.2005.11.010>
- Parsons, S., Kruijt, A. W., & Fox, E. (2016). A cognitive model of psychological resilience. *Journal of Experimental Psychopathology*, 7(3), 296–310. <https://doi.org/10.5127/jep.053415>
- Raftery, A. E. (1995). Bayesian model selection in social research. *Sociological Methodology*, 25, 111–163. <https://doi.org/10.2307/271063>
- Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical Software*, 48(2), 1–36. <http://www.jstatsoft.org/v48/i02/>
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/110003-066X.55.1>
- Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*, 67(6), 1063–1078. <https://doi.org/10.1037/0022-3514.67.6.1063>
- Scholz, D., Strelan, P. (2020). In control, optimistic, and resilient: Age-related effects of believing in a just world among adolescents. *Personality and Individual Differences*, 110474. <https://doi.org/10.1016/j.paid.2020.110474>
- Şeker, B. D. (2016). Evaluation of life satisfaction after the 2011 Van (Turkey) earthquake. *Social Behavior and Personality*, 44(9), 1409–1417. <https://doi.org/10.2224/sbp.2016.44.9.1409>

- Sellbom, M., & Tellegen, A. (2019). Factor analysis in psychological assessment research: Common pitfalls and recommendations. *Psychological Assessment, 31*(12), 1428–1441. <https://doi.org/10.1037/pas0000623>
- Siu, O., Spector, P. E., Cooper, C. L., & Donald, I. (2001). Age differences in coping and locus of control: A study of managerial stress in Hong Kong. *Psychology and Aging, 16*(4), 707–710. <https://doi.org/10.1037/0882-7974.16.4.707>
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine, 15*(3), 194–200. <https://doi.org/10.1080/10705500802222972>
- Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology, 53*(1), 80. <https://doi.org/10.1037/0022-0167.53.1.80>
- Steger, M. F., Oishi, S., & Kesebir, S. (2011). Is a life without meaning satisfying? The moderating role of the search for meaning in satisfaction with life judgments. *The Journal of Positive Psychology, 6*(3), 173–180. <https://doi.org/10.1080/17439760.2011.569171>
- Strelan, P., & Callisto, J. (2020). Good outcomes are more likely for me than you—Especially in a just world. *Personality and Individual Differences, 163*, 110033. <https://doi.org/10.1016/j.paid.2020.110033>
- Strelan, P., Van Prooijen, J., & Gollwitzer, M. (2019). When transgressors intend to cause harm: The empowering effects of revenge and forgiveness on victim well-being. *British Journal of Social Psychology, 59*(2), 1–23. <https://doi.org/10.1111/bjso.12357>
- Sutton, R. M., Stoeber, J., & Kamble, S. V. (2017). Belief in a just world for oneself versus others, social goals, and subjective well-being. *Personality and Individual Differences, 113*, 115–119. <https://doi.org/10.1016/j.paid.2017.03.026>

- Sutton, R. M., & Winnard, E. J. (2007). Looking ahead through lenses of justice: The relevance of just-world beliefs to intentions and confidence in the future. *British Journal of Social Psychology, 46*(3), 649–666. <https://doi.org/10.1348/014466606X166220>
- Taubitz, L. E., Pedersen, W. S., & Larson, C. L. (2015). BAS Reward Responsiveness: A unique predictor of positive psychological functioning. *Personality and Individual Differences, 80*, 107–112. <https://doi.org/10.1016/j.paid.2015.02.029>
- Ucar, G. K., Hasta, D., & Malatyali, M. K. (2019). The mediating role of perceived control and hopelessness in the relation between personal belief in a just world and life satisfaction. *Personality and Individual Differences, 143*, 68–73. <https://doi.org/10.1016/j.paid.2019.02.021>
- Xie, X., Liu, H., & Gan, Y. (2011). Belief in a just world when encountering the 5/12 wenchuan earthquake. *Environment and Behavior, 43*(4), 566–586. <https://doi.org/10.1177/0013916510363535>
- Yu, X., Ren, G., Huang, S., & Wang, Y. (2018). Undergraduates' belief in a just world and subjective well-being: The mediating role of sense of control. *Social Behavior and Personality, 46*(5), 831–840. <https://doi.org/10.2224/sbp.6912>
- Zhou, L., & Chen, J. (2017). Life events and hopelessness depression: The influence of affective experience. *PloS One, 12*(11), 1–14. <https://doi.org/10.1371/journal.pone.0187898>

Broaching the Question of Causation

Having established a correlational association between BJW-self, empowerment, and adaptive psychological functioning but unable to show the same effects in a longitudinal study, the question of causation was left unanswered. From analysing shared variance in Chapter 2, Chapter 3 moves to the investigation of temporal precedents and the causal influence of BJW-self on empowerment, and in turn, positive and negative affect. A cross-sectional design was first used to establish correlations between these outcomes, and then two experimental studies were employed to provide evidence of causation. I used indices of positive and negative affect as they play an important role in building adaptive psychological functioning and are also amenable to experimental manipulation. The supplementary analyses show that indices of life satisfaction, optimism, and resilience were not responsive to experimental manipulation likely as they are trait/dispositional variables, which can be resistant to environmental influences.

Chapter 3 Statement of Authorship

The following three studies were submitted as a single paper, therefore the single statement of authorship presented here is applicable to all three studies.

Title of Paper	Looking on the Bright Side: Belief in a Just World for the Self Empowers More Positive and Less Negative Affect
Publication Status	<input type="checkbox"/> Published <input type="checkbox"/> Accepted for Publication <input checked="" type="checkbox"/> Submitted for Publication <input type="checkbox"/> Unpublished and submitted work written in manuscript style
Publication Details	Submitted to the Personality and Social Psychology Bulletin. Has received a revise and resubmit.

Principle Author

Name of Principal Author	
Contribution to the Paper	Study concept and design, data collection, statistical analyses, writing manuscript.
Overall percentage (%)	80%
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary a paper.
Signature	Date: 9/3/2021

Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

- vii. the candidate's stated contribution to the publication is accurate (as detailed above);
- viii. permission is granted for the candidate to include the publication in the thesis; and
- ix. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

Name of Co-Author	Peter Strelan
Contribution to the Paper	Principal supervision, advice about the study concept and design, manuscript proofreading.
Signature	Date:

Name of Co-Author	Nicholas Burns
Contribution to the Paper	Secondary supervision, advice on statistical analysis methodology.
Signature	Date:

CHAPTER 3

Looking on the Bright Side:

Belief in a Just World for the Self Empowers More Positive and Less Negative Affect

Jonathan Bartholomaeus^{1,2}, Peter Strelan¹, Nicholas Burns¹

1. School of Psychology, The University of Adelaide, North Terrace, Adelaide, 5005

Australia

2. Wellbeing and Resilience Centre, The South Australian Health and Medical Research

Institute, North Terrace, Adelaide, 5000 Australia

Abstract

Belief in a just world for the self (BJW-self) has been established as an important psychological resource which promotes adaptive functioning. In this paper we present three studies on the indirect role of empowerment to show how it links BJW-self to two indices of adaptive psychological functioning—positive and negative affect. Study 1 employed latent variable structural equation modelling to map the associations between these variables. Studies 2 and 3 used experimental designs to provide evidence of the causal ordering, with manipulations employed to induce empowerment and confirm BJW-self, respectively. The association between trait BJW-self and affect was mediated by empowerment (Study 1); empowerment influenced affect but not trait measures of BJW (Study 2); and BJW-self confirmation caused participants to feel empowered, which influenced affect (Study 3). We discuss the theoretical implications of these findings, and the challenges and opportunities for the experimental manipulation and broader study of BJW-self.

Keywords: belief in a just world, empowerment, positive affect, negative affect.

3.1 Introduction

As Eric Idle's character hangs on a cross at the end of *Monty Python's Life of Brian* he merrily exhorts his audience to always look on the bright side of life. He himself is in a difficult situation, but none-the-less appears to be in a good mood. Alternatively, Brian—hanging alongside him—is not dealing quite as well with the situation. We all know someone like Eric's character, who is able to look on the bright side of life most of the time. We also know someone like Brian, who seemingly cannot. Sometimes there are immediate and situation-specific explanations for people's moods and other times we may find ourselves saying, "it's just how they are". Another possibility is that Eric has a framework for understanding the world that helps him feel more positive about life. In this article we test the idea that *belief in a just world* gives individuals a sense of *power* over their lives, which in turn promotes the adaptive psychological states of increased positive affect and reduced negative affect.

3.1.1 Belief in a Just World

Lerner's (1980) justice motive theory explains how people come to terms with and make sense out of their social and personal worlds. The just world hypothesis or belief in a just world (BJW) has three inter-related core tenets. First, individuals need to believe in a world where fairness reigns; in such a world, people get what they deserve and deserve what they get. This belief provides a framework for understanding events in one's life and the broader society. Second, endorsing BJW enables the individual to confront the world as if it were a stable and orderly place. Because the world is understandable to the individual it is predictable, and because it is predictable the individual can reasonably expect certain outcomes to follow from certain actions, whether it be their own actions or those of others. Third, as BJW provides many psychological benefits, individuals are highly motivated to maintain the belief, even in the face of contradictory evidence. The motivation to protect

BJW can lead to many curious outcomes. For example, on the one hand, BJW is famously associated with the derogation of innocent victims; people would more readily judge a victim's suffering as deserved than accept that the world may not be a just place (Lerner & Miller, 1978). On the other hand, as we shall see shortly, the same people who derogate innocent victims may also report responding prosocially to the hurtful actions of others.

BJW functions on the back of the personal contract (Lerner et al., 1976). This contract develops during childhood as a corollary of cognitive development and is underpinned by a simple principle: in order to gain greater long-term rewards, one must deny the immediate gratification of desires and invest in the future. The personal contract codifies the contingency between inputs and outputs—you reap what you sow—and affords the individual a sense of control. Adhering to the personal contract leads to the need to believe in a just world, because only when the world functions according to the rules of justice does one receive the appropriate long-term rewards for one's short-term sacrifices.

3.1.1.1 BJW as Implicit Motivation vs Explicit Trait

BJW has been conceptualised as both an implicit motivation, endorsed to a similar extent by all people, and an explicit individual difference. Initially, BJW was exclusively conceptualised as a universal pre-conscious assumption that arose from the interaction of developmental forces and a stable environment resulting in people identifying the contingency between their inputs and outputs, subscribing to the terms of the personal contract, and thus organising their lives around the principles of deservingness (see Hafer & Bègue, 2005 for review). This approach further indicates that any conscious processing of the just world motive may distort it as it becomes subject to moral reasoning and impression management (Lerner, 2003). Therefore, predominately experimental research paradigms were used, where participants were exposed to emotive threats to their BJW in order to elicit

automatic, primitive, and defensive strategies, thus providing an opportunity to observe the unobstructed effects of BJW.

BJW has also been conceptualised as an individual difference variable simply measured using standardised self-report instruments. This approach asserts that people differ in the strength of their BJW and that these differences will lead to markedly different outcomes. Implicit within this approach is the assumption that BJW will not be distorted by conscious processing. Indeed, evidence suggests the efficacy of this approach; self-report measures of BJW correlate positively and substantially with many of the outcomes studied using experimental paradigms, such as harsh social attitudes and victim derogation (see Hafer & Sutton, 2016 for review).

3.1.1.2 A Just World for the Self vs Others

Within the individual differences approach, a well-supported presumption is that individuals are able to distinguish the extent to which they believe the world is just for others (BJW-other) and for the self (BJW-self; Lipkus et al., 1996). In general, BJW-other has been associated with negative social attitudes (see Hafer & Sutton, 2016 for review) whereas BJW-self has been linked to positive personal outcomes (see Bartholomaeus & Strelan, 2019, for review). Nonetheless, both spheres of BJW, while associated with different outcomes, are psychologically adaptive for the individual.

For instance, the bulk of the experimental research is concerned with how observers respond to the suffering of innocent victims (and therefore tends to reflect BJW-other; Hafer & Bègue, 2005). When observers do not understand the context of the suffering or are unable to help, they derogate and blame the victim for their suffering. This behaviour can be seen in terms of the observer upholding the laws of deservingness by which they live their lives. By blaming victims for their suffering individuals maintain their belief that the world is a just place in which they too will continue to get what they deserve. While this attitude is

obviously harmful to victims, it is functional for observers: recasting an innocent victim as deserving restores a just world for the observer and allows them to maintain the fiction that their world is a fair place.

BJW-self is similarly adaptive for the individual but with a stark contrast in its manifestations. Because individuals believe that the world will treat them fairly, they feel as if they understand the world they live in and, because the world is reliable and predictable, they can act with confidence that their actions will have the intended results. Thus, BJW-self is associated with many adaptive outcomes such as an optimistic outlook for the future; prosocial behaviour; and coping adaptively with negative life events (see Bartholomaeus & Strelan, 2019 for review). In short, BJW-self encourages people to look on the bright side of life.

3.1.2 BJW-self and positive and negative affect

The present investigation is concerned specifically with the extent to which BJW-self predicts affect. Prior research indicates that BJW-self is associated with increased positive affect (Sutton et al., 2017) and decreased negative affect (Dalbert & Dzuka, 2004), although sometimes relations are non-significant (see Correia et al., 2009). We focus on affect because accumulated experiences of increased positive and reduced negative affect have the capacity to profoundly influence the development of response repertoires that enable individuals to both cope and thrive. According to the Broaden-and-Build theory of positive emotions (Fredrickson, 2001), the regular experience of positive affect and the sporadic experience of negative affect creates a platform from which individuals can build enduring personal resources. Life-threatening situations and the attendant negative emotions narrow the thought-action repertoire; people think of a limited number of options and choose quickly between them to escape harm. In contrast, the experience of positive emotions broadens the thought-action repertoire—increasing the number of thoughts that come to mind and the

connections that can be made between them. It is this broadening of the thought-action repertoire that allows individuals to build enduring physical, intellectual, social, and psychological resources. Experiencing increased positive affect and decreased negative affect therefore has far-reaching consequences for how individuals live their lives beyond the momentary experience of those emotions.

3.1.3 Empowerment

Our central hypothesis is that BJW-self increases positive affect and decreases negative affect because it is *empowering*. Personal power is defined as “the ability to determine personally relevant rewards and punishments” (Leach et al., 2017, p. 5). Feeling powerful also entails feeling free from the influence of others and being in control of one’s own fate (Lammers et al., 2016). The process by which one establishes or restores a sense of personal power, and the final outcome of this process, is referred to as empowerment (Cattaneo & Chapman, 2010). Power, and the process of establishing it, has a number of adaptive psychological benefits. A sense of power enables individuals to be less constrained or influenced by others in their actions (Galinsky et al., 2008) and encourages people to take action with goal-directed behaviour (Galinsky et al., 2003). Power also gives rise to a sense of self-esteem (Fast et al., 2009; Wojciszke & Struzynska-Kujalowicz, 2007) and increases one’s sense of optimism (Anderson & Galinsky, 2006; Fast et al., 2009). Notably, empowerment tends to be associated with more positive and less negative affect (Anderson & Berdahl, 2002; Bombari et al., 2017; Leach & Weick, 2018), although sometimes relations are non-significant (Weick & Guinote, 2010).

The approach/inhibition theory provides a framework for understanding the various outcomes associated with a sense of power (Keltner et al., 2003). According to this framework the experience of empowerment leads to approach-motivated behaviour and disempowerment leads to inhibition-motivated behaviour. Formally, a sense of empowerment

is thought to trigger the behavioural activation system (BAS), as increased power generally leads to increased sensitivity to rewards and unconstrained behaviour. BAS functioning consists of heightened positive responsiveness to rewards, an increased drive to pursue goals, and fun-seeking behaviour. Conversely, disempowerment activates the behavioural inhibition system (BIS) as decreased power leads to an increased awareness of social constraints. BIS functioning results in sensitivity towards potential threats, and thus disincentivises behaviour that may result in punishment (Carver & White, 1994). Therefore, those who experience empowerment—the process of establishing or restoring power—can reasonably be expected to experience increased BAS functioning and the attendant adaptive psychological benefits that this provides. Conversely, those who are disempowered might be expected to experience increased BIS functioning and the related psychological detriments.

3.1.4 The Empowering Effects of the Belief in a Just World

Recently, researchers have pointed out that ideas of justice and empowerment are closely related in Lerner's (1980) original just world theorising (see Bartholomaeus & Strelan, 2019). For instance, Lerner states, in reference to the assumptions of BJW, that “In order to plan, work for, and obtain things they want, and avoid those which are frightening or painful, people must assume that there are manageable procedures which are effective in producing the desired end states” (1980, p. 9). In other words, people assume there is a system that can be leveraged to control what happens in their lives. Thus, it is reasonable to assert that the more people subscribe to a system that provides them with a meaningful and coherent interpretation of their world (the just world framework), the more they will experience an increased sense of empowerment (the ability to achieve desired end states) across various aspects of their lives.

Further, the approach/inhibition theory can be loosely interpreted through a just world lens. As discussed, increased power is associated with the activation of the BAS and

decreased power with activation of the BIS. The activation of the BAS leads to pursuing goals and increased reward-seeking behaviour, whereas the activation of the BIS results in increased attention to threats and constrained behaviour. These differential associations are consistent with a just world perspective. Only in a world where efforts are fairly rewarded—a just world—does the individual's motivation to pursue goals and seek rewards make sense. The individual can pursue goals confident that there is a contingency between effort and reward. Contrastingly, in a world where there is no contingency between effort and reward—a random world—individuals are likely to be more aware of potential threats and thus exhibit constrained behaviour. In this way, BJW-self is a necessary precursor to a sense of empowerment and to the subsequent approach-motivated behaviours, cognitions, and affect.

Empowerment is also reflected in the three functions theorized to explain how BJW-self promotes positive personal outcomes, specifically: assimilation, motivation, and trust (Dalbert, 2001). The *assimilation* function allows the individual to preserve their BJW by assimilating random events into their worldview. They do this by identifying logical events or actions that may have preceded or caused the event. Doing so allows people to feel as though they continue to understand the world, even when confronted with unjust or underserved circumstances. Recently, Strelan et al. (2017) demonstrated this, observing that victims given a chance to punish their perpetrator (restoring the balance of justice) were then more likely to report a sense of empowerment. This process of repeatedly encountering injustices (whether minor or major) and assimilating them into one's world view may be a daily source of empowerment.

The *motivation* function compels the individual to act in accordance with the laws of justice, that is, to treat others fairly and to behave in such a way so as to ensure good rewards. This function arises out of the personal contract and the individual's belief that whatever they invest in the world, it will be returned to them. In this way the individual can exert a direct

sense of control over their current and future worlds, and this is likely another source of empowerment. Finally, the *trust* function allows the individual to trust in others and, because the world is a stable and orderly place, trust that their fate will be just (see Dalbert & Donat, 2015 for review). Evidence suggests that power and status lead to a willingness to trust in others (Lount & Pettit, 2012). Therefore, whereas the assimilation and motivation functions may precede a sense of empowerment, the trust function may be a product of it. These three functions possess inherently empowering properties.

To the best of our knowledge, there has been no previous research on BJW-self in relation to empowerment. However, several studies have explored the links between BJW, and a construct closely related to empowerment, perceived control⁸. Early work found correlations between measures of BJW and an internal locus of control, that is, the belief that events, or rewards, are contingent on the individual's actions or traits (Furnham & Procter, 1989). More recent research has looked at the relation specifically between BJW-self and measures of perceived control. Fischer and Holz (2010) found that perceived control mediates the association between BJW-self and mental health. Similarly, there are moderate positive correlations between BJW-self, perceived control, and wellbeing (Yu et al., 2018). And perceived control has been found to mediate relations between BJW-self and life satisfaction (Ucar et al., 2019).

3.1.5 Overview of studies

We present three studies testing the empowering influence of BJW-self on affect using both individual difference and experimental approaches. In Study 1 we test the extent

⁸ A clear demarcation between perceived control and empowerment is not firmly established in the literature. However, we suggest that the psychological feeling of control centres on perceived resources and limitations with reference to achieving a concrete goal in a specific environment or life domain (Lachman & Weaver, 1998). Comparatively, empowerment is about establishing or restoring power: a sense of social and personal freedom to do as one pleases; to be free from the influence of others; and to have authority over one's own fate (Lammers et al., 2016; Leach et al., 2017). While there may be conceptual overlap between these constructs, initial evidence suggest that perceived control and power are two independent constructs that meaningfully interact to produce varying outcomes (Fast et al., 2009).

to which trait BJW-self predicts positive and negative affect indirectly through empowerment. According to Spencer et al. (2005), experimental manipulation of *all* variables in a causal sequence—including, in particular, the mediating variable—provides a more stringent test of a psychological process. Therefore, the focal point of Study 2 was on manipulating empowerment to establish its causal influence on affect. In Study 3, we replicated the trait-level relations observed in Study 1 by either affirming or disconfirming participants' BJW-self using a previously validated experimental manipulation, thereby providing evidence of the causal effects of BJW-self on empowerment and affect.

When studying either BJW-self or BJW-other, it is necessary to consider the relations between these closely related constructs. As the present research relates to outcomes pertaining to the self, theory dictates that the role of BJW-other will be negligible. This is primarily because BJW-other appears to have little relation to outcomes that pertain to the self (Bartholomaeus & Strelan, 2019; Hafer & Sutton, 2016). However, when people think about how just the world is for the self, they may subconsciously be comparing themselves to others, thereby using BJW-other as a reference point (Hafer et al., 2019). This could be why the extant literature tends to indicate a moderate relation between BJW-self and BJW-other (Hafer et al., 2019). To the extent that people use BJW-other as a reference point, it is important to control for any influence it may exert on self-focused outcomes (as is standard practice; see Bartholomaeus & Strelan, 2016; Sutton et al., 2017). Throughout this investigation we therefore measured and statistically controlled for the effects of BJW-other in all analyses.

3.2 Study 1

The purpose of Study 1 was to test the hypothesis that trait BJW-self would be positively associated with positive affect and negatively with negative affect, and that there would be an indirect effect through empowerment, such that higher BJW-self is empowering

which in turn is associated with higher positive affect and lower negative affect. We tested these direct and indirect effects using latent variable structural equation modelling (SEM).

3.2.1 Method

3.2.1.1 Participants

Participants were a sample of $N=174$ undergraduate students from a large Australian university who participated in the study for course credit. *A priori* power analysis indicated that a sample of $N=156$ was required to provide 80% power at $\alpha=.05$ to detect a medium sized effect ($d=0.4$; based on Hafer, 2000). We oversampled to allow for attrition. Eight respondents were removed for substantially incomplete data and two respondents were removed as they were under the age of 18. The remaining sample consisted of 164 students (42 men, 122 women, $M_{age}=20.87$, $SD=7.14$, age ranged from 18 to 60 years). The majority of participants were Australian (62%) and 88% spoke English as their primary language.

3.2.1.2 Procedure

Accessing the study online, participants first provided informed consent for their participation in the study. Participants then completed measures of BJW-self, BJW-others, empowerment, positive affect, and negative affect⁹.

3.2.1.3 Measures

3.2.1.3.1 Belief in a Just World

BJW-self ($\alpha=.87$; $\omega_t=.87$, $CI_{95\%}$ [.84, .90]) and BJW-other ($\alpha=.93$; $\omega_t=.93$, $CI_{95\%}$ [.91, .95]) were measured using Lipkus et al.'s (1996) scale (eight items each; 1=*completely*

⁹ Participants were randomly allocated to one of two experimental conditions, a BJW-prime or no-prime condition. The procedure for manipulating BJW-self was adapted from Hafer (2000). In the BJW-prime condition participants wrote about their ambition for their future careers and personal lives, and how they intended to achieve their goals in a fair and honest way. In the no-prime condition participants listed the subjects and extracurricular activities they were currently undertaking at university. The manipulation was ineffective, $t(161.38)=1.00$, $p=.32$, $d=0.16$, with no differences observed across the outcome variables. The two conditions were collapsed into a single sample and experimental condition was controlled for in all subsequent analyses. We discuss likely explanations for these findings in the general discussion.

disagree, 7=*completely agree*). A sample item is, “I feel that the world treats me (people) fairly”. BJW-self was measured first followed by BJW-others.

3.2.1.3.2 Empowerment

We measured empowerment ($\alpha=.91$; $\omega_t=.91$, $CI_{95\%} [.89, .94]$) using Strelan et al.’s (2019) eight item scale (1=*disagree strongly*, 7=*agree strongly*). A sample item is, “I feel empowered”.

3.2.1.3.3 Positive and Negative Affect

We used the Scale of Positive and Negative Experience (SPANE) to measure positive and negative affect (Diener et al., 2010). The scale’s instructions were modified to direct participants to focus on their current mood (10 items¹⁰; 1=*very slightly or not at all*, 5=*extremely*); positive affect ($\alpha=.90$; $\omega_t=.90$, $CI_{95\%} [.87, .92]$), negative affect ($\alpha=.82$; $\omega_t=.82$, $CI_{95\%} [.78, .87]$). Sample items include, “Good; Bad; Pleasant; Unpleasant”.

3.2.1.4 Statistical Analysis

We employed latent variable SEM to estimate the relations between BJW-self, empowerment, positive affect, and negative affect. All modelling was conducted in MPlus Version 8.3 (Muthén & Muthén, 1998–2017). As the data were categorical, we used a mean and variance adjusted weighted least squares estimator (WLSMV). Condition (refer to footnote 9) and BJW-other were entered as covariates in the model¹¹. The indirect effect of empowerment was confirmed using bootstrap generated 95% confidence intervals (1,000 iterations; bias corrected). Criteria for model fit were based on the recommendation of Marsh et al. (2004); CFI and TLI>.90; RMSEA<.06; and SRMR<.08.

¹⁰ Due to an administration error the first two items of the SPANE scale (item 1: “positive” and item 2: “negative”), were not included in the measurement.

¹¹ BJW-other was not significantly associated with any of the outcomes in this model.

3.2.2 Results

The estimated model is displayed in Figure 3.1. The model showed acceptable fit to the data, $\chi^2(548)=815.9, p<.001, CFI=.97, TLI=.97, RMSEA=.055$ CI_{90%} [.047, .062], SRMR=.062. All items loaded significantly on their assigned latent factors. Notably, however, BJW item 8 (“I feel that when I meet with misfortune, I have brought it on myself”) loaded weakly on the BJW-self construct ($\beta=.37$); Empowerment item 8 (“I feel exploited [reverse scored]”) loaded weakly on empowerment ($\beta=.48$); and Negative affect item 4 (“Afraid”) loaded weakly on negative affect ($\beta=.41$). Removing these items did not appreciably improve model fit and therefore were retained. The final model met all cut-off criteria with the exception of the SRMR (.062), which was marginally higher than the recommended .06.

All path estimates were in the expected direction and were significant at $p<.01$ (refer to supplementary material for CI_{95%} for all model estimates). Trait BJW-self was positively associated with empowerment and positive affect and was negatively related to negative affect. Empowerment was positively associated with positive affect and negatively associated with negative affect. The indirect effect of BJW-self on positive affect, through empowerment, was significant, $\beta=.19, p<.001, CI_{95\%} [.11, .27]$, as was the indirect effect of BJW-self on negative affect, through empowerment, $\beta=-.15, p<.001, CI_{95\%} [-.22, -.10]$. This analysis indicates that BJW-self is associated with a heightened sense of empowerment, and that this increased sense of empowerment is, in turn, associated with increased positive affect and decreased negative affect¹².

¹² Several other outcome variables were measured in this study, specifically life satisfaction, optimism, and resilience. The results for these outcomes were consistent with those for positive affect. BJW-self was positively related to each of these three variables, and there was a positive and significant indirect effect through empowerment. Due to space constraints, we report these results and associated methodological information in the online supplementary material. Two indices of control—perceived mastery and perceived constraints—were measured in this study. Additional analyses including these variables as competing mediators to empowerment revealed that indirect effects were significantly stronger through empowerment.

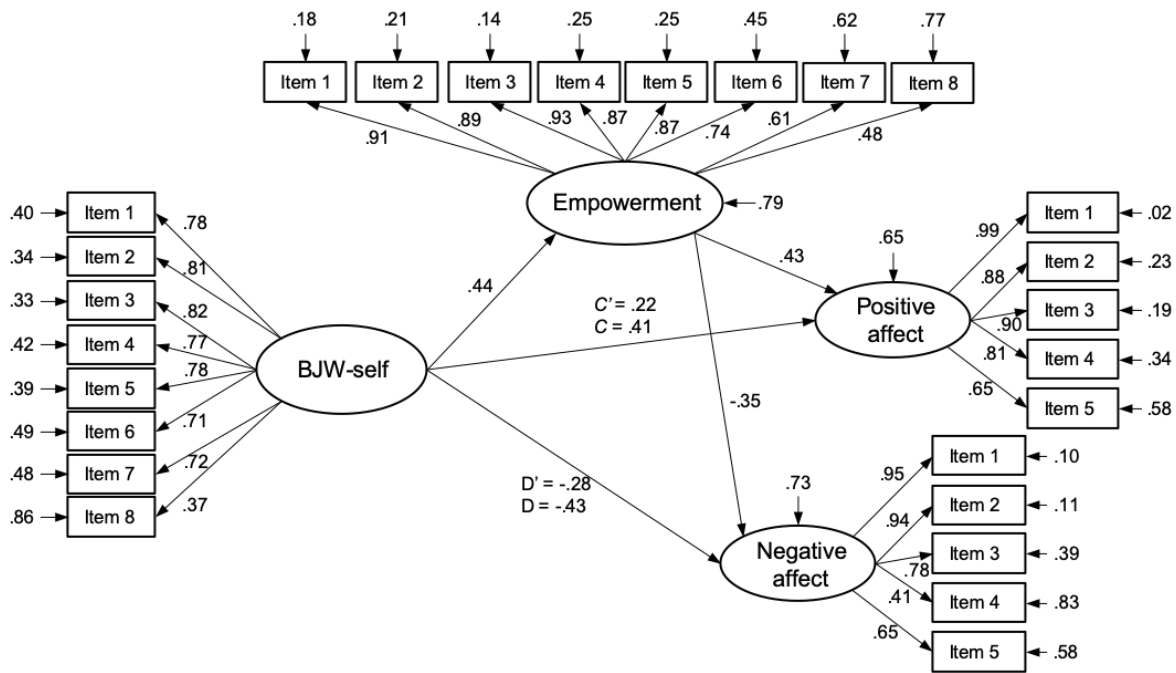


Figure 3.1 The influence of BJW-self on positive and negative affect through empowerment.

Note. Path estimates are standardised regression coefficients. C' =direct effect of BJW-self on positive affect; C =total effects of BJW-self on positive affect; D' =direct effect of BJW-self on negative affect; D =total effects of BJW-self on negative affect.

3.3 Study 2

Study 1 allowed us to test the associations between BJW-self, empowerment, and positive and negative affect. Further, it provided an initial indication of the indirect effects of BJW-self on affect through empowerment. Following Spencer et al.’s (2005) recommendation, in Study 2 we manipulated empowerment—the mediator variable in the proposed relation between BJW-self and affect—to confirm its causal influence on positive and negative affect. We hypothesized that participants who feel empowered will experience higher levels of positive affect and lower levels of negative affect compared to participants who feel disempowered.

3.3.1 Method

3.3.1.1 Participants

Participants were 110 respondents from the Prolific website, participating for £0.50 (48 men, 61 women, 1 transgender, $M_{age}=32.90$, $SD=11.41$, age ranged from 18 to 65 years). Participants were limited to those with English as a first language and with an approval rating of over 90%, indicating satisfactory participation in previous studies. The majority of participants reported as American, British, or Canadian (82%). As the study's manipulation had not been used before, we had no prior knowledge of effect size, therefore, we aimed for 50 respondents per condition (as recommended by Simmons et al., 2013). To anticipate possible exclusions, we oversampled and recruited 110 participants, 63 were randomised to the empowered condition and 47 to the disempowered condition.

3.3.1.2 Procedure

Accessing the study through the Prolific website participants first provided informed consent and were then randomised to recall and write about a time when they had either gained (empowered) or lost power (disempowered). This power prime was adapted from the well-established recall paradigm developed by Galinsky et al. (2003). Once they had written about their experience participants then responded to a manipulation check and measures of positive affect, negative affect, BJW-self, and BJW-other. Participants were debriefed at the conclusion of the study.

3.3.1.3 Measures

This study used the same measures of BJW-self and BJW-other as in Study 1 (Lipkus et al., 1996); BJW-self ($\alpha=.90$; $\omega_r=.90$, $CI_{95\%}$ [.87, .94]); BJW-other ($\alpha=.90$; $\omega_r=.90$, $CI_{95\%}$ [.87, .93]). Positive and negative affect were again measured using the SPANE (Diener et al., 2010); positive affect ($\alpha=.95$; $\omega_r=.95$, $CI_{95\%}$ [.93, .97]), negative affect ($\alpha=.92$; $\omega_r=.93$, $CI_{95\%}$ [.90, .95]). A single item was used a manipulation check, "How did your sense of power

change in the situation you just described?" (1=*I lost a lot of power*, 7=*I gained a lot of power*).

3.3.2 Results

Descriptive information for all dependent variables is presented in Table 3.1. Responses to the manipulation check indicated the experimental manipulation was successful; participants in the empowered condition reported significantly higher feelings of empowerment, $t(106.4)=19.0$, $p<.001$, $d=3.57$. We employed a multivariate analysis of variance (MANOVA) to test for an overall difference between conditions and subsequent analysis of variance (ANOVA) to test for differences in each dependent variable. An alpha level of $\alpha=.0125$ was calculated using the Bonferroni correction to account for multiple comparisons.

Table 3.1

Descriptive Information for Dependent Variables by Condition (Study 2)

	Empowered condition ($n=63$)		Disempowered condition ($n=47$)		Cohen's d
	Mean	SD	Mean	SD	
Positive affect	5.22	0.95	4.41	1.43	0.67
Negative affect	2.22	1.02	3.14	1.48	0.72
BJW-self	4.78	1.03	4.33	1.29	0.39
BJW-other	3.60	1.12	3.29	1.19	0.27

There was a significant multivariate difference between conditions, Pillai's $V=0.13$, $F(4, 105)=4.05$, $p<.01$, $\eta^2_{\text{partial}}=.13$. Additional univariate analyses indicated significant differences between conditions on positive affect, $F(1, 108)=13.0$, $p<.001$, $\eta^2_{\text{partial}}=.11$, and negative affect, $F(1, 108)=14.9$, $p<.001$, $\eta^2_{\text{partial}}=.12$. Participants in the empowered condition reported both significantly higher positive affect and significantly lower negative affect. Conversely, no significant differences were observed between conditions on BJW-self, $F(1,$

108)=4.08, $p=.046$, $\eta^2_{\text{partial}}=.04$, or BJW-other, $F(1, 108)=2.02$, $p=.158$, $\eta^2_{\text{partial}}=.02$. These results indicate that empowerment has a causal influence on the individual's experience of positive and negative affect in the hypothesized direction. Unsurprisingly, empowerment did not have a significant effect on trait measures of BJW-self or BJW-other¹³.

3.4 Study 3

The primary aim of Study 3 was to test the effects of *manipulated* BJW-self. We aimed to show that confirming one's BJW-self (*versus* disconfirming it) leads to a sense of empowerment, which increases positive affect and decreases negative affect. To ensure that we were measuring the effects of the manipulation and not trait levels of BJW-self we randomised participants to each of the two conditions and controlled for trait levels of BJW-self in the analysis. Additionally, we continued to control for BJW-other because of the shared variance between the two constructs (Hafer et al., 2019). We hypothesized that participants who received an affirmation of their BJW-self would report; a) significantly higher levels of positive affect; b) significantly lower levels of negative affect; and c) that manipulated BJW would have an indirect effect on both positive and negative effect through empowerment.

3.4.1 Method

3.4.1.1 Participants

Participants were a sample of 195 undergraduate students from a large Australian university who participated in the study for course credit. *A priori* power calculation indicated a minimum required sample of 78 (80% power, $\alpha=.05$, $d=0.65$, based on Correia et al., 2009, Study 3). We aimed to recruit as many participants as possible throughout the semester. Two respondents were removed for incomplete data. The remaining sample

¹³ BJW-self was significantly and positively correlated with positive affect ($r=.32$, $p<.001$, $CI_{95\%}$ [.14, .48]) and significantly negatively correlated with negative affect ($r=-.33$, $p<.001$, $CI_{95\%}$ [-.48, -.15]).

consisted of 193 students (57 men, 135 women, 1 transgender, $M_{age}=20.20$, $SD=4.53$, age ranged from 18 to 60 years). The majority of participants were Australian (73%) and 81% spoke English as their primary language.

3.4.1.2 Procedure

This study was made available to students via a university-based research participation website. Participants first provided informed consent and were then presented with demographic questions and trait measures of BJW-self and BJW-other. Once completed participants were randomised to the BJW-self confirmation ($n=92$) or BJW-self disconfirmation ($n=101$) condition. The manipulation involved reading the fictitious findings of a prior study, a manipulation based on Correia et al. (2009, Study 3). Participants in both conditions were informed that the prior study had examined the early career success of university graduates. Participants in the confirmation condition read a version of the findings indicating that university graduates enjoy more success, earn more money, and have overall higher satisfaction with life. Participants in the disconfirmation condition read a version of the fictitious findings reporting the opposite, that university graduates have less success, earn less, and report lower satisfaction with life. The text in both conditions ended with a quote that confirmed or disconfirmed BJW, “the effort you put into your studies definitely does/does not pay off”. Having read the text, participants then responded to three manipulation check items, and measures of empowerment, positive affect, and negative affect. Finally, participants were debriefed and informed of the deception.

3.4.1.3 Measures

This study used the same measures of BJW-self and BJW-other as in Studies 1 and 2 (Lipkus et al., 1996); BJW-self ($\alpha=.89$; $\omega_t=.89$, $CI_{95\%} [.87, .92]$); BJW-other ($\alpha=.91$; $\omega_t=.91$, $CI_{95\%} [.89, .93]$). The manipulation check consisted of three items (“The world is a fair place”, “I will get the outcomes I deserve”, and “I will be rewarded for the effort I put into

my studies”; 1=*completely disagree*, 7=*completely agree*; $\alpha=.77$; $\omega_r=.78$, $CI_{95\%} [.73, .83]$). The empowerment scale (Strelan et al., 2019) from Study 1 was also used ($\alpha=.88$; $\omega_r=.89$, $CI_{95\%} [.86, .92]$). As with Study 1, positive and negative affect were measured using the SPANE (Diener et al., 2010); positive affect ($\alpha=.94$; $\omega_r=.94$, $CI_{95\%} [.93, .96]$); negative affect ($\alpha=.89$; $\omega_r=.88$, $CI_{95\%} [.85, .92]$). Mean scores were computed for each variable, higher scores represented stronger endorsements of the constructs.

3.4.2 Results

Descriptive information for all dependent variables is presented in Table 3.2. A t-test indicated that the manipulation was successful, with participants assigned to the confirmation condition more likely to report that the world was a fair place, $t(190.9)=3.16$, $p<.01$, $d=0.45$. Correlations amongst all measured variables are presented in Table 3.3.

Table 3.2

Descriptive Information for Dependent Variables by Condition (Study 3)

	Confirmation condition ($n=92$)		Disconfirmation condition ($n=101$)		Cohen's d
	Mean	SD	Mean	SD	
Empowerment	4.79	1.09	4.52	1.07	0.25
Positive affect	3.14	0.93	2.66	0.98	0.50
Negative affect	1.90	0.76	2.14	0.81	0.31

Table 3.3

Correlations Amongst Measured Variables (Study 3)

	1	2	3	4	5
1. BJW-self		.238, .483	.333, .559	.222, .470	-.301, -.027
2. BJW-other	.367**		-.065, .215	.115, .380	-.035, .244
3. Empowerment	.453**	.077		.346, .568	-.515, -.278
4. Positive affect	.352**	.252**	.464**		-.402, -.140
5. Negative affect	-.167*	.107	-.403**	-.276**	

Note. Zero-order correlations presented in bottom triangle and $CI_{95\%}$ in top triangle. ** = $p < .001$; * = $p < .05$.

We tested the variation between the conditions in positive and negative affect, and the indirect effect of empowerment, using Hayes's (2013) Multiple Mediation macro (5,000 iterations; bias corrected). In the first model condition was entered as the independent variable, empowerment as the mediating variable, and positive affect as the dependent variable. Model 2 replicated Model 1, except with negative affect as the dependent variable.

Figure 3.2 shows that the experimental condition caused a significant difference in empowerment; participants in the confirmation condition reported significantly higher levels of empowerment than those in the disconfirmation condition. The direct effects show that condition had a similar impact on positive affect; participants in the confirmation condition reported significantly higher levels of positive affect than those in the disconfirmation condition. Finally, the indirect effect of condition on positive affect through empowerment was significant, $\beta = .11$, $CI_{95\%} [.02, .24]$.

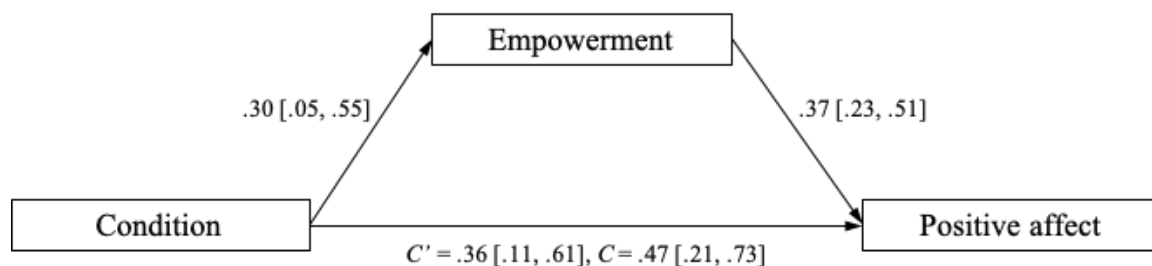


Figure 3.2 The indirect effect of condition on positive affect through empowerment.

Note. C' =direct effects; C =total effects. Path estimates are standardised regression coefficients; $CI_{95\%}$ in brackets.

Figure 3.3 shows the same significant effect of the manipulation on empowerment, and on negative affect. The direct effect indicates that participants in the confirmation condition reported significantly lower levels of negative affect than those in the disconfirmation condition. The indirect effect of condition on negative affect, through empowerment, was significant, $\beta = -.11$, $CI_{95\%} [-.25, -.01]$; participants in the confirmation condition felt empowered and subsequently reported significantly lower levels of negative affect than participants in the disconfirmation condition^{14, 15}.

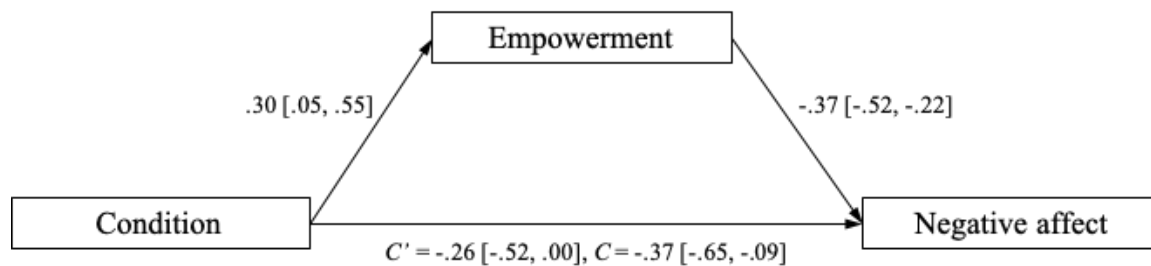


Figure 3.3 The indirect effect of condition on negative affect through empowerment.

Note. C' =direct effects; C =total effects. Path estimates are standardised regression coefficients; $CI_{95\%}$ in brackets.

3.5 General Discussion

As hypothesized, the more people believe the world treats them fairly, the more empowered they feel, and the more positive affect and less negative affect they experience.

Using latent variable SEM, Study 1 revealed significant relations between trait level BJW-

¹⁴ Life satisfaction, optimism, and resilience were also measured as dependent variables. Mediation analysis indicated significant total and indirect effects of condition on life satisfaction through empowerment. Condition also exerted significant indirect effects on optimism and resilience through empowerment, but the direct and total effects of condition on optimism and resilience were non-significant. In consideration of space, full methodological and model results are reported in the online supplementary material.

¹⁵ When BJW-self and BJW-other were not included as covariates the direct and total effects of condition on positive affect remained unchanged. However, the effect of condition on empowerment only approached significance, $\beta = .25$, $p = .08$. In turn, the indirect effects of condition on positive affect, through empowerment, also became non-significant, $\beta = .11$, $CI_{95\%} [-.01, .25]$. For the negative affect model, the total effects remained significant. However, the direct effect of condition on negative affect, $\beta = -.20$, $p = .13$, and the indirect effect through empowerment became non-significant, $\beta = -.10$, $CI_{95\%} [-.23, .01]$.

self, empowerment, and affect. Study 2 used an experimental manipulation to provide evidence for the causal influence of the mediator variable, empowerment, on affect. Lastly, Study 3 manipulated BJW-self and suggests that it is empowering when one's just world is confirmed, which in turn fosters positive affect and reduces negative affect. These findings are the first to outline the empowering mechanism by which BJW-self leads to an adaptive psychological state and, therefore, make a new contribution to our knowledge about how BJW-self functions as a personal resource (Dalbert, 2001).

3.5.1 Extending BJW Theory

These findings make two advances in the field of just world research. First, we have empirically substantiated the notion that BJW is empowering, an idea present in theory for some time (e.g., Lerner, 1980), but until now not tested. Our findings add weight to the idea that people who subscribe to a system which provides them with a meaningful and coherent interpretation of their world feel a sense of empowerment and thus experience psychological benefits. This idea also aligns with correlational studies reporting a positive relationship between BJW and a close conceptual sibling of empowerment, perceived control (Fischer & Holz, 2010; Ucar et al., 2019; Yu et al., 2018).

Second, these findings show the importance of BJW-self in determining immediate, situation-specific outcomes. The broaden-and-build theory (Fredrickson, 2001) suggests that the experience of positive emotions allows individuals to build enduring resources. Here, we have shown that BJW-self is psychologically adaptive because it allows the individual to experience more positive affect and less negative affect in certain situations. BJW-self may function to build psychological resources by, in part, influencing people's momentary reactions to common daily situations. That is, the empowering influence of BJW-self may repeatedly prompt increased positive affect and decreased negative affect in response to a range of situations throughout daily life. The accumulation of many daily experiences of

positive affect lays the foundations—in line with the Broaden-and-build theory—for building enduring personal resources.

The notion that BJW-self facilitates the cumulative benefit of consistent experiences of increased positive affect adds a new dimension to the existing literature on BJW-self, which has typically focused on temporally distant outcomes; such the prediction of life satisfaction in difficult times (Christandl, 2013), future school achievement (Dalbert & Stoeber, 2006), and prospective life goals (Sutton & Winnard, 2007). Taken together with the extant literature, our findings demonstrate the importance of BJW-self in not only determining future outcomes but also momentary reactive affective states.

3.5.2 The Manipulation of BJW-self in Study 3

In Studies 1 and 3, BJW-self, as measured at the trait level, was consistently significantly associated with empowerment, positive affect, and negative affect. However, the association with empowerment and affect is less clear when BJW-self was manipulated. In Study 3, we made salient participants' just world by inferring that in their own future they could expect either just or unjust rewards for the investment they were currently making in their studies, that is, we either confirmed or disconfirmed the notion that the world they live in is just. Our theorising for this study was directed at the confirmation condition. We hypothesized that it is empowering to encounter a scenario that affirms one's world is just.

The manipulation employed in Study 3 contained a level of psychological realism that avoided the limitations of hypothetical or correlational designs. It was based on a manipulation used by Correia et al. (2009) and we found a similar pattern of results to their findings on life satisfaction. However, while there were significant differences between conditions on all outcome variables, we cannot be sure if the confirmation condition was causing increased levels of empowerment and affect, or if the disconfirmation condition was causing decreased levels of these outcomes. It is possible that participants witnessing the

unfair treatment of the fictitious university graduates may have experienced a threat to their BJW: the fictitious graduates had worked hard to complete their university studies but were not rewarded for their efforts, they were not treated justly by the world.

According to theory, if the disconfirmation condition did present a threat to participants' BJW, they would have been motivated to defend against it (Lerner, 1980). As a result of defending against a BJW threat participants should have then experienced an increased sense of empowerment. However, in Study 3 participants were not given the opportunity to defend their BJW but were asked to report their feelings of empowerment and affect directly after encountering the disconfirming information. Thus, as there was no opportunity to defend their BJW, we cannot determine if participants viewed the disconfirmation condition as a threat. On the other hand, it is just as likely that the confirmation condition was—as hypothesized—driving the effect. As individuals are highly motivated to maintain their belief in a just world (Lerner, 1980) and are sensitive to both confirmatory and disconfirmatory evidence that the world is just (Lerner et al., 1976), they likely give evidence confirming the world is just a similar level of attention as disconfirming evidence. Future studies could include a third neutral condition to clarify whether the confirmation or the disconfirmation condition is driving the effects. Additionally, future studies might establish whether a BJW threat leads to a sense of empowerment after participants are given an opportunity to defend and restore their BJW.

We note that the effect of the manipulation on empowerment—and subsequently the indirect effect on affective outcomes—was contingent upon controlling for trait BJW. That is, trait BJW had a suppressor effect; the significant effect of the manipulation on empowerment (and the significant indirect effects) was retained only when trait BJW was partialled out. As such, it seems that while individuals do respond to immediate, situation-specific priming of a just world, their underlying beliefs about a just world are important for

determining their empowered and affective responses. Schindler et al. (2019, Study 1) have also noted the important role of dispositional BJW-self in determining situation-specific reactions; observing that participants higher in trait BJW-self reported stronger repair actions after experiencing a BJW-self threat. Our findings, and the consideration of Study 3's manipulation more broadly, illustrate that manipulating BJW-self presents theoretical and practical challenges. In the next section we attempt to provide some clarity on manipulating BJW-self.

3.5.3 Experimental Manipulations of BJW-self

Historically, BJW research has been concerned with manipulating threats to BJW, in particular using an innocent victim scenario (see Hafer & Bègue, 2005 for review). Because these manipulations typically involve reacting to another's misfortune, they can reasonably be considered situation-level proxies for trait BJW-other. In contrast, we have found only three manipulations that purport to directly target beliefs about the fairness of one's own world, that is, BJW-self (see Correia et al., 2009; Hafer, 2000; Schindler et al., 2019).

Disentangling the manipulation of BJW-self and BJW-other in an experimental setting presents challenges. To illustrate, consider that observers' reactions to the traditional innocent victim scenario can be understood in terms of justice for others and the self. As the traditional manipulation is concerned with the unjust suffering of another person, the BJW-other construct is likely engaged. However, the innocent suffering of another person is only psychologically discomforting—and only engages notions of a just world for the self—to the extent it suggests that the observer, too, may be at risk of experiencing undeserved suffering. Indeed, Lerner and Miller (1978) state that because people are primarily concerned with their own world—the environment in which they live—they will respond differently to the injustices of others depending on the perceived closeness of the other's world to their own. If the victim's world is distant, little or no defence is necessary as the injustice does not threaten

the observer's world. However, if the victim's world is close, BJW defences are required. One such defence is to compartmentalise the suffering of innocent others by placing them in a different world; doing so enables the observer to distance themselves from the suffering and reduce the potential implications of the victim's suffering for themselves (Lerner, 1980). From this standpoint, it is apparent that, in terms of experimental manipulation, the lines between BJW-self and BJW-other are not clearly defined.

One example of the blurred line between manipulating BJW-self and BJW-other can be drawn from the experimental paradigm developed by Hafer (2000), on which Study 1's attempted priming of BJW-self was based (see footnote 9). In this paradigm participants were asked to focus on long-term goals and how they could obtain these goals in a fair and just way. In theory, participants thinking about long-term goals are more reliant on the just world principle of getting what they deserve (i.e., that *their* world is just), as only in a just world will they be able to gain just rewards for their efforts in attaining their long-term goals. After this BJW-self priming, Hafer exposed participants to the suffering of innocent victims. As discussed, the suffering of innocent victims can be considered a threat in the realm of BJW-other. Even though participants were primed with BJW-self, any possible effect of BJW-self was arguably confused by introducing a threat that was posed by another's suffering, thus confounding the priming of BJW-self and the manipulation of BJW-other. Our replication of this paradigm employed the same BJW-self priming method but did not subject participants to the suffering of an innocent victim. Unlike Hafer, we observed no effect from the prime. It is possible that Hafer observed an effect of the priming due predominately to the primal and automatic response elicited by the threat to BJW-other.

With regard to Study 3's manipulation, it is only by referencing the just or unjust treatment of other university graduates that we could confirm or disconfirm the justness of the participant's own world. It is, therefore, unclear whether the manipulation in Study 3 was

only engaging BJW-self or partially tapping into BJW-other as well, thus creating uncertainty as to which construct is causing a sense of empowerment and influencing affect. This uncertainty is, however, offset by the associations between trait BJW-self, empowerment, and affect across the three studies. In Study 1, the predicted relationships between empowerment and affect were observed for trait BJW-self but not trait BJW-other (refer to footnote 11). In Study 2, BJW-self correlated significantly and in the expected directions with both positive and negative affect (refer to footnote 13). Further, in Study 3, empowerment was moderately significantly correlated with BJW-self, but had a non-significant and weak correlation with BJW-other. As such, the findings across the studies provide converging evidence for the empowering influence of BJW-self on affect. Future research developing experimental manipulations that tease apart BJW-self and BJW-other will enable clearer insight into the differential functioning of these BJW facets.

3.5.4 Avenues for Future Research

BJW-self has been studied seemingly exclusively in relation to positive outcomes (Bartholomaeus & Strelan, 2019). However, thinking of BJW-self as empowering enables predictions to be made about outcomes associated with BJW-self that are not necessarily always experienced as positive. If BJW-self is empowering and activates BAS functioning it should show relations with increased optimistic risk-taking (Anderson & Galinsky, 2006); increased self-serving bias, that is the tendency to attribute success internally and failures externally (Lammers & Burgmer, 2019); and illusionary control (Fast et al., 2009). Indeed, recent research has demonstrated the association between BJW-self and the optimism bias (Strelan & Callisto, 2020). This bias occurs when people have an unrealistic expectation about their probability of attaining positive outcomes and avoiding negative outcomes compared to their peers. The exclusive focus on the positive effects of BJW-self can be

expanded by testing its empowering function, the effects of which may lead to outcomes such as over confidence and risk-taking.

A second avenue for future research is to investigate how those individuals with a strong endorsement of BJW-self respond to *disempowering* situations. As BJW-self allows individuals to make sense of situations (Dalbert, 2001) it is likely that people with strong BJW-self rationalise the cause of the disempowerment, restoring a sense of power faster than those low in BJW-self. Further, it is likely that those with a strong BJW-self use more positive coping strategies and prosocial means to restore their sense of power. And as BJW-self buffers individuals' wellbeing, it is likely that those high in BJW-self feel a reduced impact on their mental health from the disempowering event.

Finally, a third avenue for future research is to empirically substantiate the theoretical implications of the present findings. BJW-self acts as a personal resource through the functions of assimilation, motivation, and trust (Dalbert, 2001). Theoretically, all three functions can be understood as power-centric, that is, either precursors or products of empowerment. The assimilation function allows the individual to comprehend injustices and to implicitly restore a sense of justice. This restoration of justice is likely empowering. The motive function impels the individual to comply with the laws of justice and the personal contract. Sacrificing in the short-term is to gain greater rewards in the long term, this belief may provide a sense of power over one's current and future life. The trust function allows the individual to trust in others and the justness of their own fate. A general sense of trust is possibly another by-product of feeling empowered. To investigate the relationship between empowerment and these functions future research might: measure experiences of empowerment after exposure to a just world threat (assimilation); investigate whether acting in accordance with the laws of justice promotes a sense of empowerment (motivation); or examine one's willingness to trust in others after a BJW-self or empowerment prime (trust).

3.6 Conclusion

We have shown that BJW-self is empowering, resulting in increased positive affect and decreased negative affect. This is important as the regular experience of positive affect allows individuals to build long-term psychological resources. These resources, in turn, allow people to deal adaptively with challenges in life. Importantly, our findings extend current just world theorising in suggesting that BJW-self is associated with a wide range of positive outcomes and general adaptive psychological functioning specifically because it is first empowering. Perhaps looking on the bright side of life is more than just a sentiment. Perhaps our ability to do so is deeply rooted in the beliefs we hold about our world and has a considerable impact on our daily psychological functioning.

References

- Anderson, C., & Berdahl, J. L. (2002). The experience of power: Examining the effects of power on approach and inhibition tendencies. *Journal of Personality and Social Psychology*, *83*(6), 1362–1377. <https://doi.org/10.1037//0022-3514.83.6.1362>
- Anderson, C., & Galinsky, A. D. (2006). Power, optimism, and risk-taking. *European Journal of Social Psychology*, *36*(4), 511–536. <https://doi.org/10.1002/ejsp.324>
- Bartholomaeus, J., & Strelan, P. (2016). Just world beliefs and forgiveness: The mediating role of implicit theories of relationships. *Personality and Individual Differences*, *96*, 106–110. <https://doi.org/10.1016/j.paid.2016.02.081>
- Bartholomaeus, J., & Strelan, P. (2019). The adaptive, approach-oriented correlates of belief in a just world for the self: A review of the research. *Personality and Individual Differences*, *151*, 109485. <https://doi.org/10.1016/j.paid.2019.06.028>
- Bombardi, D., Schmid Mast, M., & Bachmann, M. (2017). Felt power explains the link between position power and experienced emotions. *Emotion*, *17*(1), 55–66. <https://doi.org/10.1037/emo0000207>
- Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology*, *67*(2), 319–333. <https://doi.org/10.1037/0022-3514.67.2.319>
- Cattaneo, L. B., & Chapman, A. R. (2010). The process of empowerment: A model for use in research and practice. *American Psychologist*, *65*(7), 646–659. <https://doi.org/10.1037/a0018854>
- Christandl, F. (2013). The belief in a just world as a personal resource in the context of inflation and financial crises. *Applied Psychology*, *62*(3), 486–518. <https://doi.org/10.1111/j.1464-0597.2012.00489.x>

- Correia, I., Batista, M. T., & Lima, M. L. (2009). Does the belief in a just world bring happiness? Causal relationships among belief in a just world, life satisfaction and mood. *Australian Journal of Psychology*, *61*(4), 220–227. <https://doi.org/10.1080/00049530802579515>
- Dalbert, C. (2001). *The justice motive as a personal resource: Dealing with challenges and critical life events*. Kluwer Academic/Plenum Publishers.
- Dalbert, C., & Donat, M. (2015). Belief in a Just World. In J. Wright (Ed.), *International Encyclopedia of the Social & Behavioral Sciences: Second Edition* (pp. 487–492). Elsevier. <https://doi.org/10.1016/B978-0-08-097086-8.24043-9>
- Dalbert, C., & Dzuka, J. (2004). Belief in a just world, personality and well-being of adolescents. In C. Dalbert & H. Sallay (Eds.), *The justice motive in adolescence and young adulthood: Origins and consequences* (pp. 101–116). Routledge.
- Dalbert, C., & Stoeber, J. (2006). The personal belief in a just world and domain-specific beliefs about justice at school and in the family: A longitudinal study with adolescents. *International Journal of Behavioral Development*, *30*(3), 200–207. <https://doi.org/10.1177/0165025406063638>
- Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research*, *97*(2), 143–156. <https://doi.org/10.1007/s11205-009-9493-y>
- Fast, N. J., Gruenfeld, D. H., Sivanathan, N., & Galinsky, A. D. (2009). Illusory control: A generative force behind power's far-reaching effects. *Psychological Science*, *20*(4), 502–508. <https://doi.org/10.1111/j.1467-9280.2009.02311.x>
- Fischer, A. R., & Holz, K. B. (2010). Testing a model of women's personal sense of justice, control, well-being, and distress in the context of sexist discrimination. *Psychology of Women Quarterly*, *34*(3), 297–310. <https://doi.org/10.1111/j.1471-6402.2010.01576.x>

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, *56*(3), 218–226.

<https://doi.org/10.1037/0003-066X.56.3.218>

Furnham, A., & Procter, E. (1989). Belief in a just world: Review and critique of the individual difference literature. *British Journal of Social Psychology*, *28*(4), 365–384.

<https://doi.org/10.1111/j.2044-8309.1989.tb00880.x>

Galinsky, A. D., Gruenfeld, D. H., & Magee, J. C. (2003). From power to action. *Journal of Personality and Social Psychology*, *85*(3), 453–466. [https://doi.org/10.1037/0022-](https://doi.org/10.1037/0022-3514.85.3.453)

[3514.85.3.453](https://doi.org/10.1037/0022-3514.85.3.453)

Galinsky, A. D., Magee, J. C., Gruenfeld, D. H., Whitson, J. A., & Liljenquist, K. A. (2008). Power reduces the press of the situation: Implications for creativity, conformity, and dissonance. *Journal of Personality and Social Psychology*, *95*(6), 1450–1466.

<https://doi.org/10.1037/a0012633>

Hafer, C. L. (2000). Investment in long-term goals and commitment to just means drive the need to believe in a just world. *Personality and Social Psychology Bulletin*, *26*(9), 1059–1073.

<https://doi.org/10.1177/01461672002611004>

Hafer, C. L., & Bègue, L. (2005). Experimental research on just-world theory: Problems, developments, and future challenges. *Psychological Bulletin*, *131*(1), 128–167.

<https://doi.org/10.1037/0033-2909.131.1.128>

Hafer, C. L., Busseri, M. A., Rubel, A. N., Drolet, C. E., & Cherrington, J. N. (2019). A Latent Factor Approach to Belief in a Just World and its Association with Well-Being. *Social Justice Research*, *33*, 1–17. <https://doi.org/10.1007/s11211-019-00342-8>

<https://doi.org/10.1007/s11211-019-00342-8>

Hafer, C. L., & Sutton, R. (2016). Belief in a just world. In C. Sabbagh & M. Schmitt (Eds.),

Handbook of Social Justice Theory and Research (pp. 145–160). [https://doi.org/10.1007/978-](https://doi.org/10.1007/978-1-4939-3216-0_8)

[1-4939-3216-0_8](https://doi.org/10.1007/978-1-4939-3216-0_8)

- Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. New York, NY: Guildford Press.
- Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review*, *110*(2), 265–284. <https://doi.org/10.1037/0033-295X.110.2.265>
- Lachman, M. E., & Weaver, S. L. (1998). The sense of control as a moderator of social class differences in health and well-being. *Journal of Personality and Social Psychology*, *74*(3), 763–773. <https://doi.org/10.1037/0022-3514.74.3.763>
- Lammers, J., & Burgmer, P. (2019). Power increases the self-serving bias in the attribution of collective successes and failures. *European Journal of Social Psychology*, *49*(5), 1087–1095. <https://doi.org/10.1002/ejsp.2556>
- Lammers, J., Stoker, J. I., Rink, F., & Galinsky, A. D. (2016). To have control over or to be free from others? The desire for power reflects a need for autonomy. *Personality and Social Psychology Bulletin*, *42*(4), 498–512. <https://doi.org/10.1177/0146167216634064>
- Leach, S., & Weick, M. (2018). From grumpy to cheerful (and back): How power impacts mood in and across different contexts. *Journal of Experimental Social Psychology*, *79*, 107–114. <https://doi.org/10.1016/j.jesp.2018.05.004>
- Leach, S., Weick, M., & Lammers, J. (2017). Does influence beget autonomy? Clarifying the relationship between social and personal power. *Journal of Theoretical Social Psychology*, *1*(1), 5–14. <https://doi.org/10.1002/jts5.5>
- Lerner, M. (1980). *The Belief in a Just World: A Fundamental Delusion*. Springer US.
- Lerner, M. J. (2003). The justice motive: Where social psychologists found it, how they lost it, and why they may not find it again. *Personality and Social Psychology Review*, *7*(4), 388–399. https://doi.org/10.1207/S15327957PSPR0704_10

- Lerner, M. J., & Miller, D. T. (1978). Just world research and the attribution process: Looking back and ahead. *Psychological Bulletin*, 85(5), 1030–1051. <https://doi.org/10.1037/0033-2909.85.5.1030>
- Lerner, M. J., Miller, D. T., & Holmes, J. G. (1976). Deserving and the emergence of forms of justice. In L. Berkowitz & E. Walster (Eds.), *Advances in experimental social psychology* (Vol. 9, pp. 133–162). Elsevier.
- Lipkus, I. M., Dalbert, C., & Siegler, I. C. (1996). The importance of distinguishing the belief in a just world for self versus for others: Implications for psychological well-being. *Personality and Social Psychology Bulletin*, 22(7), 666–677. <https://doi.org/10.1177/0146167296227002>
- Lount, R. B., & Pettit, N. C. (2012). The social context of trust: The role of status. *Organizational Behavior and Human Decision Processes*, 117(1), 15–23. <https://doi.org/10.1016/j.obhdp.2011.07.005>
- Marsh, H. W., Hau, K.-T., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling*, 11(3), 320–341. https://doi.org/10.1207/s15328007sem1103_2
- Muthén, L.K. and Muthén, B.O. (1998-2017). *Mplus User's Guide*. Eighth Edition. Los Angeles, CA: Muthén & Muthén
- Schindler, S., Wenzel, K., Dobiosch, S., & Reinhard, M. A. (2019). The role of belief in a just world for (dis)honest behavior. *Personality and Individual Differences*, 142, 72–78. <https://doi.org/10.1016/j.paid.2019.01.037>
- Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2013, January). *Life after P-Hacking*. Presentation at the 2013 Society for Personality and Social Psychology Meeting, New Orleans, LA. <http://dx.doi.org/10.2139/ssrn.2205186>

- Spencer, S. J., Zanna, M. P., & Fong, G. T. (2005). Establishing a causal chain: Why experiments are often more effective than mediational analyses in examining psychological processes. *Journal of Personality and Social Psychology, 89*(6), 845–851. <https://doi.org/10.1037/0022-3514.89.6.845>
- Strelan, P., & Callisto, J. (2020). Good outcomes are more likely for me than you—Especially in a just world. *Personality and Individual Differences, 163*, 110033. <https://doi.org/10.1016/j.paid.2020.110033>
- Strelan, P., Di Fiore, C., & Van Prooijen, J. (2017). The empowering effect of punishment on forgiveness. *European Journal of Social Psychology, 47*(4), 472–487. <https://doi.org/10.1002/ejsp.2254>
- Strelan, P., Van Prooijen, J., & Gollwitzer, M. (2019). When transgressors intend to cause harm: The empowering effects of revenge and forgiveness on victim well-being. *British Journal of Social Psychology, 59*(2), 1–23. <https://doi.org/10.1111/bjso.12357>
- Sutton, R. M., Stoeber, J., & Kamble, S. V. (2017). Belief in a just world for oneself versus others, social goals, and subjective well-being. *Personality and Individual Differences, 113*, 115–119. <https://doi.org/10.1016/j.paid.2017.03.026>
- Sutton, R. M., & Winnard, E. J. (2007). Looking ahead through lenses of justice: The relevance of just-world beliefs to intentions and confidence in the future. *British Journal of Social Psychology, 46*(3), 649–666. <https://doi.org/10.1348/014466606X166220>
- Ucar, G. K., Hasta, D., & Malatyali, M. K. (2019). The mediating role of perceived control and hopelessness in the relation between personal belief in a just world and life satisfaction. *Personality and Individual Differences, 143*, 68–73. <https://doi.org/10.1016/j.paid.2019.02.021>

Weick, M., & Guinote, A. (2010). How long will it take? Power biases time predictions. *Journal of Experimental Social Psychology, 46*(4), 595–604.

<https://doi.org/10.1016/j.jesp.2010.03.005>

Wojciszke, B., & Struzynska-Kujalowicz, A. (2007). Power influences self-esteem. *Social Cognition, 25*(4), 472–494. <https://doi.org/10.1521/soco.2007.25.4.472>

Yu, X., Ren, G., Huang, S., & Wang, Y. (2018). Undergraduates' belief in a just world and subjective well-being: The mediating role of sense of control. *Social Behavior and Personality, 46*(5), 831–840. <https://doi.org/10.2224/sbp.6912>

Supplementary Material for Chapter 3

Table S1

Study 1 Model Estimates and 95% CIs

	Estimate	95% CI
BJW-self		
Item 1	.776	.654, .861
Item 2	.813	.730, .907
Item 3	.818	.752, .876
Item 4	.765	.632, .820
Item 5	.784	.708, .854
Item 6	.713	.602, .805
Item 7	.722	.586, .827
Item 8	.371	.166, .559
BJW-other		
Item 1	.851	.769, .893
Item 2	.832	.750, .890
Item 3	.840	.739, .886
Item 4	.822	.750, .873
Item 5	.835	.765, .876
Item 6	.885	.853, .931
Item 7	.790	.694, .839
Item 8	.755	.640, .833
Empowerment		
Item 1	.907	.829, .936
Item 2	.887	.825, .929
Item 3	.927	.891, .958
Item 4	.869	.796, .927
Item 5	.866	.806, .925
Item 6	.741	.649, .806
Item 7	.613	.407, .713
Item 8	.479	.337, .598
Positive affect		
Item 1	.991	.962, 1.024
Item 2	.879	.768, .917
Item 3	.902	.870, .929
Item 4	.814	.744, .860
Item 5	.647	.508, .740
Negative affect		
Item 1	.950	.893, 1.006
Item 2	.944	.879, .983
Item 3	.780	.667, .851

Item 4	.410	.204, .570
Item 5	.647	.466, .727
Path coefficients		
BJW-self →		
Empowerment	.439	.269, .534
Positive affect	.222	-.015, .340
Negative affect	-.276	-.463, -.122
Empowerment →		
Positive Affect	.426	.260, .543
Negative Affect	-.348	-.503, -.245
Condition →		
Empowerment	.038	-.103, .203
Positive Affect	.083	-.043, .206
Negative Affect	.103	-.050, .237
BJW-other →		
Empowerment	.036	-.204, .132
Positive Affect	.049	-.134, .181
Negative Affect	.096	-.096, .282

Study 1 Additional Analyses

In this supplementary analysis, we explored the relationship between BJW-self, empowerment, and life satisfaction, optimism, and resilience.

Measures

Satisfaction with Life

Life satisfaction was measured using The Satisfaction with Life Scale (Diener et al., 1985). The five-item scale (1 = *strongly disagree*, 7 = *strongly agree*) showed acceptable reliability ($\alpha = .88$; $\omega_t = .88$, 95% CI [.85, .91]). A sample item is, “In most ways my life is close to my ideal”.

Optimism

Optimism was measured using a modified six-item version of the Life Orientation Test-Revised (LOT-R; Scheier et al., 1994). LOT-R items were modified to ask specifically about the individual’s future career, for example “I’m optimistic about my future career”. Item responses were on a five-point Likert scale (0 = *strongly disagree*, 4 = *strongly agree*). The scale showed acceptable reliability ($\alpha = .79$; $\omega_t = .80$, 95% CI [.74, .85]).

Resilience

Resilience was measured with a modified version of the Brief Resilience Scale (BRS; Smith et al., 2008). The six items were reworded to measure how the participants intended to respond to difficult life events in the future, for example, “I will bounce back quickly after hard times”. Responses were on a five-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). The scale showed acceptable reliability ($\alpha = .82$; $\omega_t = .83$, 95% CI [.77, .88]). Items 2, 4, and 6 were reverse scored.

Statistical Analysis

The exploratory variables of life satisfaction, optimism, and resilience were added to the model reported in the Chapter 3 (Figure 3.1). As the data were categorical, we used a

mean and variance adjusted weighted least squares estimator (WLSMV). Condition and BJW-other were entered as covariates in the model thus controlling their influence on empowerment, positive affect, negative affect, life satisfaction, optimism, and resilience. The mediating effect of empowerment was confirmed using bootstrap generated 95% confidence intervals (1,000 iterations; bias corrected). Criteria for model fit were based on the recommendation of Marsh, Hau, and Wen (2004); CFI and TLI > .90; RMSEA < .08; and SRMR < .06.

Results

The estimated model is displayed in Figure S1. The model showed acceptable fit to the data, $\chi^2 = 1690.29$ with 1241 *df*, $p < .001$, CFI = .96, TLI = .96, RMSEA = .047 90% CI [.041, .052], SRMR = .066. All path estimates were in the expected direction and were significant at $p < .01$, except where indicated. Trait BJW-self was positively and moderately associated with empowerment, positive affect, and life satisfaction. BJW-self was negatively related to negative affect and was non-significantly and weakly related directly to optimism and resilience. Empowerment was positively and moderately associated with positive affect, life satisfaction, optimism, and resilience. It was moderately negatively associated with negative affect.

The indirect effect of BJW-self on positive affect, through empowerment, was significant, $\beta = .19$, $p < .001$, 95% CI [.09, .26], as was the indirect effect of BJW-self on negative affect, through empowerment, $\beta = -.15$, $p < .001$, 95% CI [-.22, -.11]. The indirect effect of BJW-self on life satisfaction, through empowerment, was also significant, $\beta = .20$, $p < .001$, 95% CI [.09, .26], as was its indirect effect on optimism, $\beta = .30$, $p < .001$, 95% CI [.18, .34] and resilience, $\beta = .21$, $p < .001$, 95% CI [.11, .27].

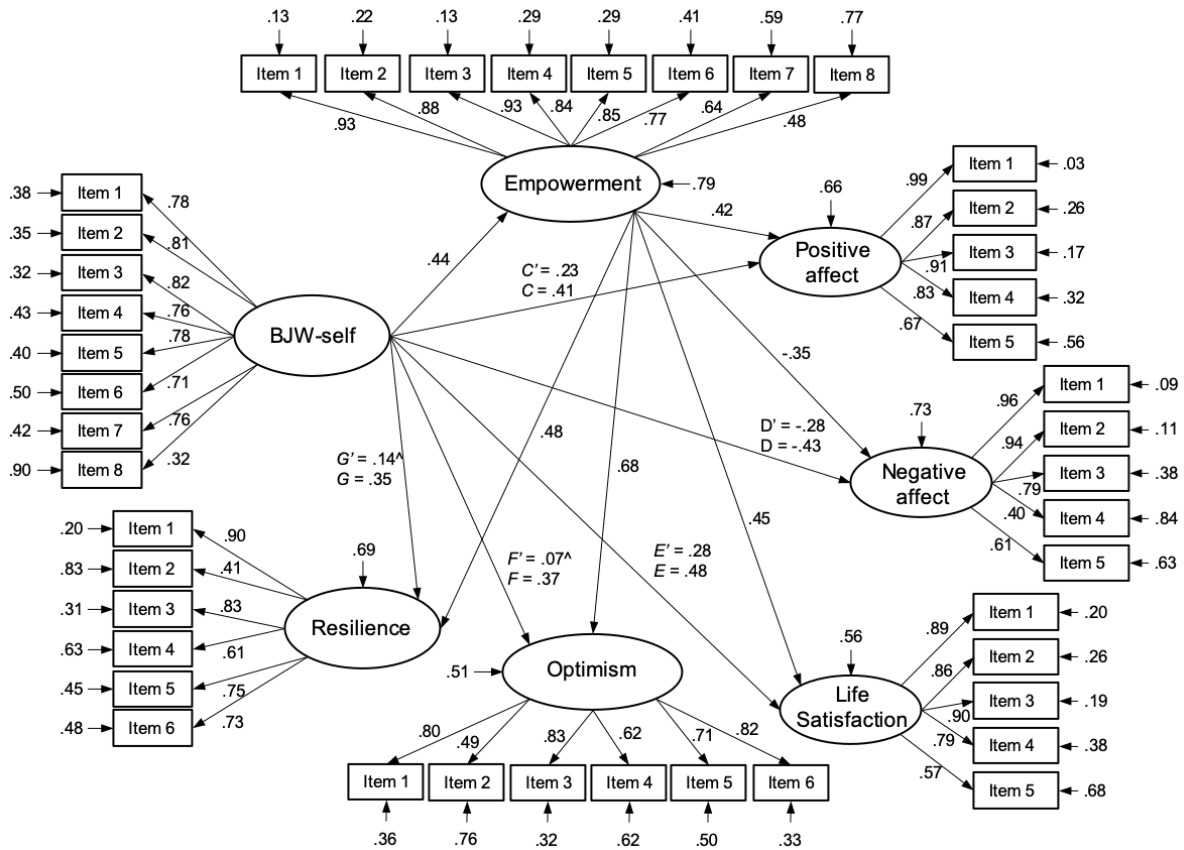


Figure S1 Latent structural equation model linking B JW-self to positive affect, negative affect, life satisfaction, optimism, and resilience through empowerment.

Note. Path estimates are standardised linear regression coefficients. \wedge = non-significant pathways. C' =direct effect of B JW-self on positive affect; C =total effects of B JW-self on positive affect; D' =direct effect of B JW-self on negative affect; D =total effects of B JW-self on negative affect; E' =direct effect of B JW-self on life satisfaction; E =total effects of B JW-self on life satisfaction; F' =direct effect of B JW-self on optimism ($p=.23$); F =total effects of B JW-self on optimism; G' =direct effect of B JW-self on resilience ($p=.12$); G =total effects of B JW-self on resilience.

Table S2

Study 1 Additional Analyses Model Estimates with 95% CIs

	Estimate	95% CI
BJW-self		
Item 1	.782	.674, .875
Item 2	.808	.753, .884
Item 3	.822	.762, .855
Item 4	.759	.694, .830
Item 5	.776	.697, .833
Item 6	.709	.645, .785
Item 7	.759	.642, .868
Item 8	.321	.226, .471
BJW-other		
Item 1	.844	.760, .888
Item 2	.836	.747, .876
Item 3	.845	.775, .884
Item 4	.821	.751, .877
Item 5	.837	.760, .884
Item 6	.884	.848, .933
Item 7	.792	.690, .841
Item 8	.750	.629, .826
Empowerment		
Item 1	.932	.920, .963
Item 2	.884	.828, .921
Item 3	.931	.902, .947
Item 4	.844	.806, .892
Item 5	.846	.801, .877
Item 6	.768	.678, .808
Item 7	.638	.539, .721
Item 8	.479	.291, .574
Positive affect		
Item 1	.987	.951, 1.005
Item 2	.861	.779, .892
Item 3	.911	.879, .944
Item 4	.825	.760, .887
Item 5	.667	.587, .749
Negative affect		
Item 1	.956	.915, 1.017
Item 2	.942	.903, .994
Item 3	.791	.679, .859
Item 4	.401	.170, .485
Item 5	.608	.451, .684

Life satisfaction		
Item 1	.892	.867, .927
Item 2	.861	.811, .905
Item 3	.899	.857, .931
Item 4	.785	.718, .831
Item 5	.567	.416, .654
Optimism		
Item 1	.803	.728, .866
Item 2	.493	.389, .589
Item 3	.826	.747, .879
Item 4	.620	.441, .783
Item 5	.707	.547, .773
Item 6	.817	.727, .889
Resilience		
Item 1	.895	.836, .941
Item 2	.413	.239, .606
Item 3	.831	.758, .897
Item 4	.612	.414, .688
Item 5	.746	.635, .881
Item 6	.727	.551, .830
Path coefficients		
BJW-self →		
Empowerment	.439	.267, .491
Positive affect	.225	.146, .339
Negative affect	-.275	-.416, -.033
Life satisfaction	.283	.185, .459
Optimism	.068	-.005, .174
Resilience	.144	-.039, .347
Empowerment →		
Positive affect	.422	.271, .587
Negative affect	-.348	-.481, -.265
Life satisfaction	.449	.239, .580
Optimism	.680	.629, .751
Resilience	.479	.348, .566
Condition →		
Empowerment	.039	-.125, .236
Positive affect	.082	-.026, .205
Negative affect	.104	-.024, .231
Life satisfaction	.008	-.167, .129
Optimism	.013	-.100, .217
Resilience	.082	-.092, .182
BJW-other →		
Empowerment	.036	-.089, .132

Positive affect	.049	-.113, .182
Negative affect	.094	-.045, .241
Life satisfaction	.041	-.109, .176
Optimism	-.088	-.217, .026
Resilience	-.026	-.197, .115

Study 3 Additional Analyses

In this supplementary analysis, we explored the causal influence that BJW-self might exert on life satisfaction, optimism, and resilience, through the construct of empowerment.

Measures

Life satisfaction and optimism

Like Study 1, life satisfaction was measured with the Satisfaction with Life Scale; it showed good reliability ($\alpha = .89$; $\omega_t = .89$, 95% CI [.87, .92]). Optimism was, again, measured using the modified LOT-R. This scale also showed acceptable reliability ($\alpha = .78$; $\omega_t = .78$, 95% CI [.72, .84]).

Resilience

Resilience was measured using six-items that focused on how the participant planned to confront challenges in their current and future studies: “I will be able to adapt to change during my studies”; “I will be able to deal with whatever comes my way while studying”; “I will bounce back after any setbacks”; “I will be able to achieve good grades even if there are obstacles”; “I will not give up on my studies”; and “Even though studying may be difficult, I will not be discouraged”, ($\alpha = .89$; $\omega_t = .89$, 95% CI [.87, .92]). Average scores were computed for each variable, higher scores represented stronger endorsements of the constructs.

Results

Descriptive information for all dependent variables is presented in Table S3. We tested the variation between the conditions in life satisfaction, optimism, and resilience, and the mediating role of empowerment, using Preacher and Hayes’ (2008) Multiple Mediation macro (5,000 iterations; bias corrected). All measures correlated as expected (Table S4). In the first model condition was entered as the independent variable, empowerment as the mediating variable, and life satisfaction as the dependent variable. Model 2 replicated model

1, except with optimism as the dependent variable and Model 3 had resilience as the dependent variable. In all models we controlled for the influence of trait BJW-self and BJW-other.

The experimental condition caused a significant difference in empowerment (Figure S2); participants in the no-threat condition reported significantly higher levels of empowerment than those in the BJW-threat condition. The direct effects show that condition did not have a significant direct impact on life satisfaction. However, the indirect effect of condition on life satisfaction through empowerment was significant, $\beta = .06$, 95% CI [.01, .14] and so was the total effects, indicating that the overall effect of condition on life satisfaction, through empowerment, was significant.

Figure S3 shows the same significant effect of the manipulation on empowerment, but no significant direct effect on optimism. While the total effects of condition on empowerment and optimism were non-significant, empowerment was significantly associated with optimism and the indirect effects of condition on optimism were significant, $\beta = .13$, 95% CI [.02, .28]. Finally, condition had no significant direct or total effect on resilience (Figure S4). However, the indirect effect of condition on resilience through empowerment was significant, $\beta = .17$, 95% CI [.03, .31].

Table S3

Descriptive Information for Dependent Variables by Condition

	No-threat condition (n = 92)		BJW-threat condition (n = 101)		Cohen's <i>d</i>
	Mean	SD	Mean	SD	
Empowerment	4.79	1.09	4.52	1.07	0.25
Life satisfaction	4.37	1.33	4.10	1.43	0.20
Optimism	2.56	0.60	2.45	0.60	0.18
Resilience	5.57	0.85	5.45	0.82	0.14

Table S4

Correlations Amongst Measured Variables

	1	2	3	4	5	6
1. BJW-self		.238, .483	.333, .559	.513, .692	.277, .515	.250, .493
2. BJW-other	.367		-.065, .215	.030, .305	.014, .290	-.029, .250
3. Empowerment	.453	.077		.325, .553	.420, .625	.518, .695
4. Life satisfaction	.610	.171	.446		.385, .598	.166, .424
5. Optimism	.403	.155	.530	.499		.234, .480
6. Resilience	.378	.113	.614	.300	.364	

Note. Correlations present in bottom triangle and 95% CIs in the top triangle.

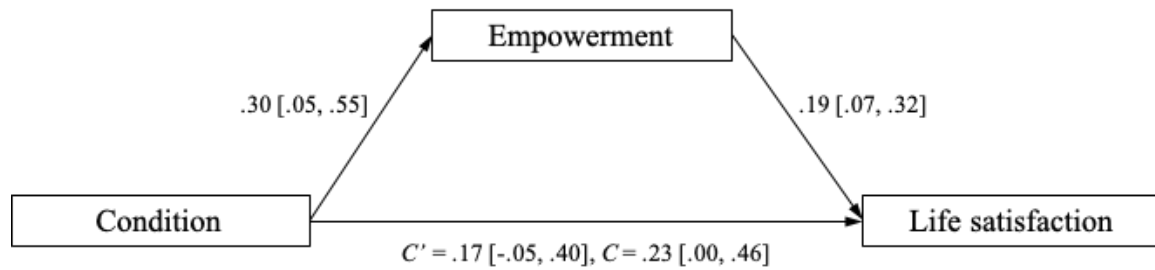


Figure S2 The indirect effect of condition on life satisfaction through empowerment.

Note. C' =direct effects; C =total effects. Path estimates are standardised linear regression coefficients.

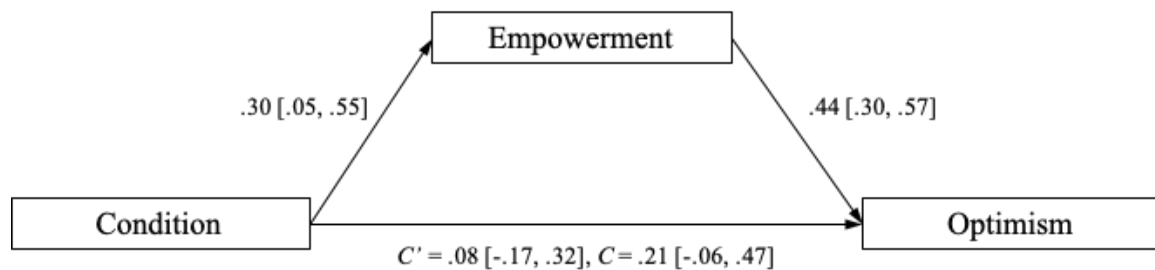


Figure S3 The indirect effect of condition on optimism through empowerment.

Note. C' =direct effects; C =total effects. Path estimates are standardised linear regression coefficients.

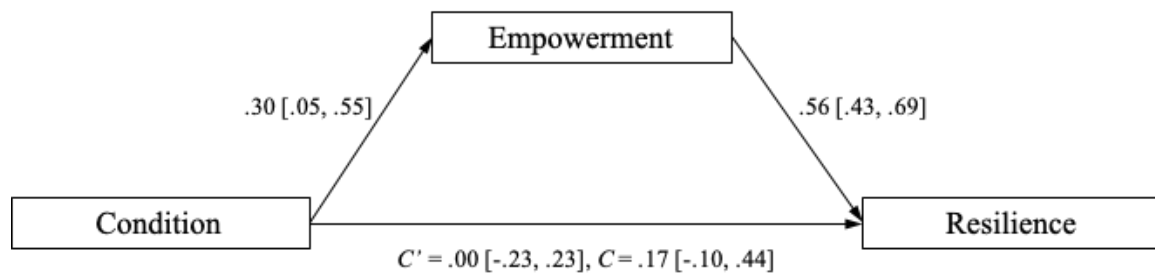


Figure S4 The indirect effect of condition on resilience through empowerment.

Note. C' =direct effects; C =total effects. Path estimates are standardised linear regression coefficients.

From the Laboratory to the Real World

Having found both correlational and causal evidence of the empowering function of BJW-self across a number studies, I then wanted to see if the model held in an applied setting. That is, whether BJW-self empowered adaptive functioning in a population that was facing vastly different life circumstances compared to the samples I had already collected. I was able to take advantage of an opportunity to collect data on BJW-self, empowerment, and mental health from female prisoners. The notion of personal justice (or BJW-self) would be a pertinent topic for women currently incarcerated and experiencing corrective societal justice. I then administered the same survey with a gender-, age-, and ethnicity-matched sample of non-prisoners. Comparative analysis of the empowering function of BJW-self in these two samples forms the basis of Chapter 4.

Chapter 4 Statement of Authorship

Title of Paper	The Empowering Function of the Belief in a Just World for the Self for Mental Health: A Comparison of Prisoners and Non-prisoners
Publication Status	<input type="checkbox"/> Published <input type="checkbox"/> Accepted for Publication <input checked="" type="checkbox"/> Submitted for Publication <input type="checkbox"/> Unpublished and submitted work written in manuscript style
Publication Details	Submitted to the Personality and Individual Differences. Has received a revise and resubmit.

Principle Author

Name of Principal Author	Jonathan Bartholomaeus	
Contribution to the Paper	Study concept and design, data collection, statistical analyses, writing manuscript.	
Overall percentage (%)	80%	
Certification:	This paper reports on original research I conducted during the period of my Higher Degree by Research candidature and is not subject to any obligations or contractual agreements with a third party that would constrain its inclusion in this thesis. I am the primary author of this paper.	
Signature	_____	Date: 9/3/2021

Co-Author Contributions

By signing the Statement of Authorship, each author certifies that:

- x. the candidate's stated contribution to the publication is accurate (as detailed above);
- xi. permission is granted for the candidate to include the publication in the thesis; and
- xii. the sum of all co-author contributions is equal to 100% less the candidate's stated contribution.

Name of Co-Author	Peter Strelan	
Contribution to the Paper	Principal supervision, advice about the study concept and design, manuscript proofreading.	
Signature	_____	Date: _____

CHAPTER 4

The Empowering Function of the Belief in a Just World for the Self in Mental Health: A Comparison of Prisoners and Non-prisoners

Jonathan Bartholomaeus^{1,2}, Peter Strelan¹

¹School of Psychology, The University of Adelaide, North Terrace, Adelaide, 5005 Australia

²The Registry of Senior Australians (ROSA), SAHMRI, North Terrace, Adelaide, 5000
Australia

Acknowledgments

We would like to thank Monique Newberry, Joseph Van Agteren, Marissa Carey, and Laura Lo from the SAHMRI Wellbeing and Resilience Centre for their work in obtaining ethical approval for this project and collecting data from the prisoners. We would also like to acknowledge the South Australian Department for Correctional Services for working to make this research possible.

Abstract

The intersection of societal and psychological justice—people’s reaction to corrective justice within the criminal justice system—provides a unique opportunity to understand more about how one’s perception of justice relates to adaptive psychological functioning. In this study we explore the associations between the belief in a just world for the self (BJW-self), power, wellbeing, optimism, resilience, and psychological distress to establish whether the empowering effect of BJW-self functions to promote mental health similarly for prisoners and non-prisoners alike. Data was collected from a sample of female prisoners ($n=72$) and a gender-, age-, and ethnicity-matched sample from the general population ($n=80$). Path analysis indicated similar associations between BJW-self, power, and mental health for both prisoners and non-prisoners. Prisoners reported higher levels of psychological distress, but also higher levels of resilience compared to non-prisoners. The implications of our findings for the application of justice motive theory to those in incarceration and insight into the measurement of mental health in prisons is discussed.

Keywords: adaptive psychological functioning, BJW, belief in a just world, incarceration, mental health, prisoners, power

4.1 Introduction

Being incarcerated is one of the most severe measures of societal justice. The individual likely experiences disempowerment as limits are placed on their autonomy and freedom. Regardless of whether compounding experiences of disempowerment led them into the criminal justice system, or whether the system itself disempowers, prisoners tend to suffer disproportionately from a range of mental health issues and higher rates of psychotic disorders relative to non-prison populations (Fazel & Seewald, 2012). Thus, prisoners are in need of internal psychological resources that promote positive mental health and adaptive functioning. To this end, we test the extent to which a global beliefs system pertaining to justice—specifically, the belief in a just world (BJW)—may function to buffer the negative effects of incarceration. As we discuss shortly, believing in a just world for the self is empowering, which in turn encourages improved psychological functioning—even, we hypothesize, amongst individuals who are objectively lacking in power.

4.1.1 The Mental Health of Prisoners

Incarceration is a stressful and isolating life event with sometimes extreme ramifications for the individual's mental health. Those with a history of incarceration are at greater risk of developing severe depression, reporting greater life dissatisfaction, and developing mood disorders compared to the general population (see Yi et al., 2017 for review). One systematic review suggests that one in seven prisoners suffers from major depression or psychosis (Fazel & Seewald, 2012). Additionally, for prisoners, there are high rates of comorbidity between mental health issues and substance abuse, which in turn increases the likelihood of repeat offending and premature mortality post-release (Fazel & Seewald, 2012; Yi et al., 2017). Prison-level characteristics, such as overcrowding and punitiveness, as well as prisoner-level characteristics, such as length of time in prison and number of prison sentences served, are associated with mental health issues including

depressive symptomology and hostility (Edgemon & Clay-Warner, 2019; Porter & DeMarco, 2019). These mental health issues are generally worse for female prisoners than male prisoners (see Fazel et al., 2016 for a review), with women displaying higher tendencies to self-harm and suicide (Bartlett & Hollins, 2018).

Research also suggests that increased psychological resources assist prisoners to cope with incarceration. Prisoners reporting increased levels of optimism also report less physical health concerns during their incarceration (Heigel et al., 2010) and increased levels of resilience negatively predicts symptoms of depression and anxiety (Sygit-Kowalkowska et al., 2017). Evidence from a recent intervention suggests that psychological skills training results in improved outcomes for prisoners during their incarceration (Lo et al., 2020).

4.1.2 Justice Motive Theory

Although personal and vicarious experience shows that life is full of random events, justice motive theory suggests that people, for the sake of their own sanity, cannot accept the notion that events in their lives are random (Lerner & Simmons, 1966). Individuals therefore project order onto their lives and preconsciously believe a link exists between effort and outcome. This belief is commonly referred to as the belief in a just world (BJW) and is highly adaptive as it enables people to confront the world as if it were a stable and orderly place (Lerner & Miller, 1978). Because of the utility of this belief, people are highly motivated to defend against any suggestion—whether it be in their own experience or in witnessing the experience of others—that the world is arbitrary or random. The tenets of justice motive theory stem from the idea of the ‘personal contract’. In this contract, one makes a deal with the self to forgo immediate gratification of desires in order to secure greater long-term rewards. Lerner, Miller, and Holmes (1976) suggest that the contract develops early in life as children search for ways to achieve their goals and begin to codify the contingencies between effort and outcome. Over time, experience reinforces the personal contract insofar as, most of

the time, concerted effort towards achieving one's goal is met with a fair and equitable reward.

Researchers treat BJW as a function of situations, often manipulating threats to BJW (see Hafer & Bègue, 2005 for a review), and as a belief system that varies between individuals (for a review see Hafer & Sutton, 2016). Notably, when BJW is measured at the trait level there are markedly different outcomes associated with the application of justice principles to oneself (BJW-self) compared with the application of those principles to others (BJW-other). While BJW-other is associated with harsh social attitudes and punitive measures for wrongdoing (Hafer & Sutton, 2016), BJW-self is generally associated with increased levels of wellbeing, prosocial behaviour, and the ability to cope with difficult life circumstances (see Bartholomaeus & Strelan, 2019 for a review). As mental health related outcomes are by definition self-focused the current study centred on the role of BJW-self.

Recent research suggests that BJW-self acts to maintain positive mental health through the function of *empowerment* (Bartholomaeus & Strelan, 2019). As the endorsement of BJW-self provides a framework to understand the cause-and-effect of random events it naturally leads to a feeling that one understands the antecedents of life events, and therefore, an inflated sense of control over those events. This mechanism contributes to a sense of feeling empowered in everyday life. The experience of power is linked with the functioning of the behavioural activation system (BAS; Keltner et al., 2003). BAS functioning is marked by an increased positive responsiveness to rewards, an increased drive to pursue goals, and reward-seeking behaviour (Carver & White, 1994). Through the empowerment function, BJW-self causes increased positive and decreased negative affect (Bartholomaeus et al., under review), and is associated with a range of indices of adaptive functioning including increased wellbeing, optimism, and resilience, and decrease depression, anxiety, and stress (Bartholomaeus et al., unpublished manuscript).

4.1.3 The Role of BJW-self for Prisoners

Several studies have demonstrated the adaptive nature of BJW-self in prison populations. For a sample of young male German prisoners BJW-self was associated with less anger, more confidence in achieving their future goals, rating their legal proceedings as more just, and thus, feeling increased guilt over their actions (Otto & Dalbert, 2005). Adult male prisoners with a higher endorsement of BJW-self experienced decreased anger arousal and expression, were more likely to evaluate their legal proceedings as just and rated correctional officer's behaviour towards them and prison decisions as more just (Dalbert & Filke, 2007). Further, prisoners with a strong BJW-self are more altruistic (Gummerum & Hanoch, 2012) and are less likely to feel hopeless and attempt non-suicidal self-harm in the wake of negative life events (Gu et al., 2020).

Taken together, these findings suggest that BJW-self is adaptive for prisoners. It appears that the endorsement of BJW-self, and therefore, the tendency to view one's own life through the lens of justice, enables prisoners to see their incarceration as a correct and natural consequence of their actions. While the experience of being incarcerated may be subjectively bad, they can accept that objectively their world is functioning as it should, in accordance with the laws of justice. This view of their circumstances may then allow prisoners to cope with the stressors of incarceration, therefore leading to improved outcomes.

4.1.4 The Present Study

While the studies outlined above provide insight into the benefits of BJW-self amongst prisoners, none of them focus on important mental health outcomes, which previous research suggests are typically poor amongst prisoners. Specifically, measures of wellbeing and psychological distress provide a comprehensive indication of the individual's mental health (Keyes, 2005). Additionally, optimism and resilience lead to improved outcomes for prisoners. Therefore, these four outcomes were employed as indicators of adaptive

psychological functioning. As BJW-self has been shown to benefit prisoners and given that it is associated with an increased sense of power and adaptive psychological functioning in the general population, we hypothesize that it will be associated with a sense of power and indices of adaptive functioning in prisoners, despite their objectively disempowering situation. Therefore, in this study, we investigate the differences between prisoners and non-prisoners in their endorsement of BJW-self, levels of power, wellbeing, optimism, resilience, and psychological distress. Further, we conduct a path analysis to establish whether the empowering function of BJW-self leads to adaptive functioning for prisoners and non-prisoners alike.

4.2. Methods

4.2.1 Participants

Data for this study was collected from two independent samples. Participants in the first sample were $N=72$ prisoners from a women's prison in Adelaide, South Australia. Participants were a convenience sample of those who had self-selected to participate in a psychological skills training program (see Lo et al., 2020 for program description). We did not specifically target female prisoners as the subject of this study—despite evidence suggesting comparatively poorer mental health outcomes for female prisoners compared to male prisoners (Fazel et al., 2016)—but rather sampled from the population to which we had access. The sample consisted of women, $M_{age}=37.1$, $SD=10.1$, age ranged from 21 to 62 years. The majority of participants (95.8%) were Australian, the remaining identified as English. One third (33.3%) of the sample identified as Aboriginal or Torres Strait Islander. Almost half (48.6%) of the sample were single, and a quarter (25%) were in a relationship for longer than one year. The majority had completed some high school (52.8%). Most (69.4%) were serving a long-term, minimum 25-year, sentence. The other participants were either in the short-term (8.3%) or pre-release centre (20.8%). The mean length of participants

incarceration was 16.5 months, $SD=25.1$. Ethical approval to collect and analyse these data was obtained from the Aboriginal Health Research Ethics Committee (04-17-743).

Participants in the non-prisoner sample were $N=80$ respondents from the Prolific website who participated for £1.00 (GBP). We placed sampling restrictions on the Prolific website in order to collect a sample that matched the prisoner sample in size (N), age, gender, and ethnicity. Participation was restricted to females between the ages of 27 and 47 (that is, within plus or minus one SD of the mean age of participants in the prisoner sample) who were born in Australia. The sample consisted of 78 women, one transgender, and one ‘prefer not to answer’, $M_{age}=34.6$, $SD=6.9$, age ranged from 26 to 69 years (one participant’s age was below 27 and one was above 47, all other ages were between the 27-to-47-year age range). The majority of participants (90.0%) identified as Australian. None of the participants identified as Aboriginal or Torres Strait Islander. Approximately a third of the sample (32.5%) were single, a third (35.0%) were in a relationship longer than one year, and approximately a quarter (26.3%) were married. Just under half of the sample had graduated from university (42.5%).

4.2.2 Procedure

Data for the prisoner sample was collected in person before participants began the training course. In each session participants completed the paper-based survey in a common room, supervised by a researcher who was available to answer questions. Participants were informed that the prison authorities would not have access to the individual prisoner’s data. At the start of the survey participants provided informed consent and then completed measures of BJW-self, power, wellbeing, optimism, resilience, and psychological distress. Participants then responded to demographic questions and were provided with information about the training program.

Participants in the non-prisoner sample accessed the survey on Prolific, an international participant recruitment website for psychology studies. All participants first provided informed consent and then completed measures of BJW-self, power, wellbeing, optimism, resilience, and psychological distress. Participants then provided demographic information and were debriefed.

4.2.3 Measures

Scores on multi-item scales were averaged. For all scales, higher scores indicated a greater endorsement of the construct.

4.2.3.1 *Belief in a just world for the self*

BJW-self was measured using Lipkus et al.'s (1996) self scale. Participants responded on a seven-point Likert scale (1=*completely disagree*, 7=*completely agree*). The scale consists of eight items (e.g., "I feel that the world treats me fairly"). For the prisoner sample, $\omega t = .86$, $CI_{95\%} [.79, .92]$; non-prisoner sample $\omega t = .91$, $CI_{95\%} [.88, .95]$.

4.2.3.2 *Sense of power*

Participants' sense of power was measured using the eight-item Sense of Power Scale (Anderson et al., 2012) (e.g., "In my relationships with others I think I have a great deal of power"). All items were 1=*disagree strongly*, 7=*agree strongly*. Prisoner sample $\omega t = .74$, $CI_{95\%} [.58, .90]$; non-prisoner sample $\omega t = .89$, $CI_{95\%} [.85, .94]$.

4.2.3.3 *Wellbeing*

The eight-item Flourishing Scale (Diener et al., 2010) was used to measure wellbeing (e.g., "I lead a purposeful and meaningful life"). All items were 1=*strongly disagree*, 7=*strongly agree*). For the prisoner sample $\omega t = .90$, $CI_{95\%} [.85, .94]$; non-prisoner sample $\omega t = .92$, $CI_{95\%} [.90, .95]$.

4.2.3.4 Optimism

We used the ten-item Life Orientation Test-Revised to measure optimism (Scheier et al., 1994). Six of the ten items measured optimism (the other four are filler items) and were answered on a five-point Likert scale (0=*I disagree a lot*, 4=*I agree a lot*) (e.g., “I’m always optimistic about my future”). Prisoner sample $\omega t=.77$, $CI_{95\%} [.66, .88]$; non-prisoner sample $\omega t=.89$, $CI_{95\%} [.85, .92]$.

4.2.3.5 Resilience

Resilience was measured using the six-item Brief Resilience Scale (Smith et al., 2008) (0=*strongly disagree*, 10=*strongly agree*). An example item is, “I tend to bounce back quickly after hard times”. For the prisoner sample $\omega t=.81$, $CI_{95\%} [.70, .92]$; non-prisoner sample $\omega t=.96$, $CI_{95\%} [.95, .98]$.

4.2.3.6 Psychological distress

The ten-item Kessler Psychological Distress Scale (Kessler et al., 2002) was used as a measure of psychological distress. All items were measured 1=*none of the time*, 5=*all of the time* (e.g., “In the last 30 days about how often did you feel hopeless?”). For the prisoner sample $\omega t=.93$, $CI_{95\%} [.90, .95]$; non-prisoner sample $\omega t=.95$, $CI_{95\%} [.92, .97]$.

4.2.4 Statistical analysis

Analyses were conducted in R version 4.0.2. The prisoner sample contained 20 missing cells; these values were imputed using Multivariate Imputation by Chained Equations (Buuren & Groothuis-Oudshoorn, 2010). Data were inspected for, and met all, statistical assumptions except for the prediction of wellbeing. A Breusch-Pagan test indicated that it had non-constant error variance ($p<.001$) and further inspection indicated that it was univariate non-normally distributed (right skewed), which is common for wellbeing data (Diener et al., 2010). Accordingly, techniques robust to non-normality were employed throughout our analyses.

We began our formal analysis by comparing the two samples on demographic characteristics to determine if the samples differed. Following this we conducted a path analysis as depicted in Figure 4.1. This analysis estimated the direct and indirect associations between the variables, as well as showing the influence of group (prisoner sample vs non-prisoner sample) on all variables. Bootstrap generated 95% confidence intervals (5,000 iterations) were computed for all direct and indirect effects. Criteria for judging the magnitude of the standardised path coefficients were: small, greater than .05; moderate, greater than .10; and large, greater than .25 (Keith, 2006).

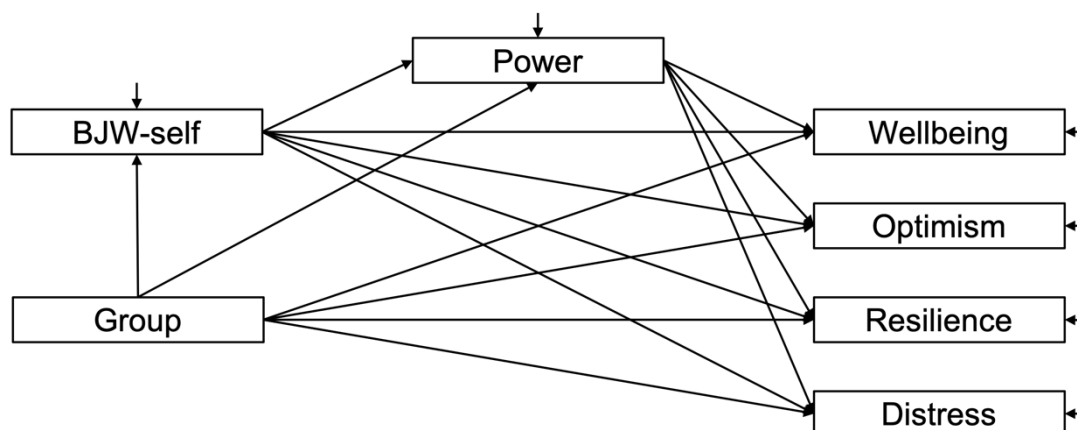


Figure 4.1 Conceptual diagram of the path analysis.

Note. Covariances are not depicted. BJW-self = belief in a just world for the self; Group = prisoner sample vs non-prisoner sample.

4.3 Results

The demographic characteristics of the two samples were compared. The two samples consisted of only females, the non-prisoners sample had one transgender and one 'prefer not to answer'. Participants did not differ significantly in age, $t(121.6)=1.80, p=.074$. The

proportion of Australian participants did not differ between samples, $\chi^2(1)=3.22, p=.073$, the vast majority of both samples were Australian. However, there were significant differences between the samples in their relationship status, $\chi^2(7)=21.7, p=.003$, and level of education completed, $\chi^2(6)=84.3, p<.001$. Participants in the non-prisoner sample were more likely to be in a relationship or married and to have completed a higher level of education.

Table 4.1 displays the direct, indirect, and covariance estimates for the path analysis shown in Figure 4.1. Group membership (i.e., prisoner vs non-prisoner) had a negligible effect on BJW-self; levels of optimism were also unaffected. Unexpectedly, however, group membership had a small negative effect on wellbeing, that is, non-prisoners reported lower wellbeing than prisoners. Group membership had a small effect on power, with non-prisoners reporting higher levels of power. Interestingly, group membership had a negative small effect on resilience; non-prisoners were less resilient than prisoners. Unsurprisingly, prisoners reported higher levels of psychological distress, compared to non-prisoners, with a small to moderate effect size¹⁶.

Table 4.1

Direct, Indirect, and Covariance Standardised Estimates from the Path Analysis

	β	p	CI _{95%}
Path estimates			
Group →			
BJW-self	.037	.647	-.122, .196
Power	.104	.156	-.040, .247
Wellbeing	-.065	.312	-.192, .061
Optimism	.039	.535	-.084, .161
Resilience	-.183	.004	-.308, -.059
Psychological distress	-.219	.001	-.353, -.084
BJW-self →			

¹⁶ For the prisoner sample, length of incarceration had no significant associations with BJW-self ($r=-.06, p=.60$), power ($r=.05, p=.71$), wellbeing ($r=-.02, p=.88$), optimism ($r=.08, p=.52$), resilience ($r=-.01, p=.93$), or psychological distress ($r=.06, p=.62$). Given the non-significant associations we did not include incarceration length in the final model.

Power	.423	.000	.274, .572
Wellbeing	.335	.000	.209, .461
Optimism	.344	.000	.201, .487
Resilience	.245	.004	.076, .414
Psychological distress	-.372	.000	-.512, -.233
Power →			
Wellbeing	.432	.000	.310, .554
Optimism	.424	.000	.287, .560
Resilience	.371	.000	.217, .525
Psychological distress	-.253	.000	-.394, -.111
Indirect effects			
BJW-self → Power →			
Wellbeing	.183	.000	.104, .262
Optimism	.179	.000	.095, .263
Resilience	.157	.000	.070, .244
Psychological distress	-.107	.005	-.182, -.032
Covariances			
Wellbeing ~			
Optimism	.337	.000	.179, .495
Resilience	.296	.000	.135, .457
Psychological distress	-.404	.000	-.556, -.252
Optimism ~			
Resilience	.312	.000	.150, .474
Psychological distress	-.445	.000	-.563, -.327
Resilience ~			
Psychological distress	-.428	.000	-.574, -.282

Note. BJW-self = belief in a just world for the self; → denotes a path estimate; ~ denotes a covariance.

BJW-self had moderate to large positive direct associations with power, wellbeing, optimism, and resilience, and a large negative direct effect on psychological distress. Similarly, power had large positive direct effects on wellbeing, optimism, and resilience, and a large negative direct effect on psychological distress. BJW-self had positive moderate indirect effects on wellbeing, optimism, and resilience through a sense of power and a moderate negative indirect effect on psychological distress. All outcome variables—that is wellbeing, optimism, resilience, and psychological distress—covaried as expected.

4.4 Discussion

These findings provide general support for our hypothesis that BJW-self functions through a sense of power to promote adaptive psychological function similarly for prisoner and non-prisoner populations. The pathways between variables remained moderate to large even though prisoners differed significantly on some indices relative to non-prisoners. As expected, prisoners reported higher levels of psychological distress than non-prisoners. However, unexpectedly, prisoners reported higher levels of resilience compared to non-prisoners. Prisoners reported non significantly higher levels of wellbeing and lower levels of optimism. Taken together, these findings indicate that even though different populations may face different challenges to their mental health, BJW-self functions in a similar empowering way to promote positive outcomes.

The present findings align with several strands of research. First, they reinforce past research showing that BJW-self is associated with positive outcomes and adaptive behaviour amongst prisoners (Dalbert & Filke, 2007; Otter & Dalbert, 2005). Second, they align with previous research in demonstrating the association between BJW-self, a sense of power, and positive functioning (Bartholomaeus et al., unpublished manuscript). Finally, these findings both support and deviate from previous research on the poor mental health of prisoners relative to non-prisoners (Fazel & Seewald, 2012). While prisoners reported higher levels of psychological distress, they also reported higher levels of resilience compared to non-prisoners. Our broad definition and measurement of mental health suggests that prisoners' experiences of incarceration may be more nuanced than previous research suggests.

4.4.1 Theoretical Implications

Our findings support and extend BJW-self theory. Broadly, these findings support theory in suggesting that an endorsement of BJW-self allows people to cope when subjected to corrective societal justice. The perception that the world is functioning according to the

laws of justice encourages prisoners to interpret their experience as a just outcome for their actions. Because they understand and subscribe to the worldview that wrongdoing should be met with punishment, they are better able to cope when experiencing just punishment. These findings extend theory in suggesting that adaptive functioning, specifically for prisoners, is associated with an internal sense of empowerment to the same degree that it is for non-prisoners. Despite prisoners being objectively disempowered, the knowledge that the world is functioning as it should, and the feeling of being able to anticipate the outcomes of their actions, provides a sense of subjective control and power over their lives resulting in increased adaptive thoughts, emotions, and behaviours.

Notably, in the current study prisoners reported higher levels of resilience compared to non-prisoners. While no *a priori* predictions were made, these findings can be interpreted with reference to the literature on adversity. Research suggests that exposure to adverse life events can ‘toughen’ people, insofar as they are more likely to report future stressful situations as manageable (see Seery, 2011 for review). This work indicates that the experience of adversity, though it may cause immediate distress, can contribute towards building a sense of resilience. In the present context, it is likely that the prisoners had experienced more adverse life events compared to the matched sample (their current incarceration being one of them). This increased exposure to adversity may be the cause of the prisoners’ higher levels of reported resilience.

Finally, this is the first study to investigate BJW-self specifically within a female prisoner population. Our findings indicate that BJW-self promotes adaptive outcomes for female prisoners to a similar extent as it does for male prisoners (Dalbert & Filke, 2007; Otter & Dalbert, 2005). Concordantly, our findings align with the notion that gender does not influence the strength or function of just world beliefs (Hafer et al., 2019). BJW-self appears

to be a valuable resource for female prisoners; an especially pertinent finding given the disparities in mental health outcomes between female and male prisoners (Fazel et al., 2016).

4.4.2 Limitations

While we sought to collect data from two demographically similar samples, some differences were present. One third of the prisoners were Aboriginal or Torres Strait Islander whereas none of the non-prisoner sample identified as such. Additionally, the non-prisoner sample were more likely to be in a relationship or married and have a higher level of education. It is, therefore, possible that some of the differences in resilience and psychological distress may be attributed to these demographic differences and not participants' incarceration. However, the similarity in outcomes, despite the demographic differences, indicates that the empowering function of BJW-self is stable despite ethnicity, relationship status, and importantly, education. A common critique of psychological inquiry is that results are based predominately on well-educated university students (Henrich et al., 2010). These findings suggest that regardless of level of education BJW-self is associated with power, and adaptive functioning.

4.4.3 Future Research

Future research might look to extend the application of just world theory and the function of empowerment for those in the criminal justice system. Previous research suggests that a sense of power provides benefits and detriments to the individual, this may also be true in the prison context. For instance, while a sense of power leads to increased wellbeing and optimism, it can also induce risk taking behaviour and a tendency to resist conformity (see Galinsky et al., 2015 for a review). The empowering function of BJW-self may present some trade-offs for the benefits it confers on the individual as a psychological resource.

Further, as our unexpected findings around resilience demonstrate, a broader definition and measurement of mental health within prisoner research can lead to a more

nuanced understanding of the impact of incarceration on mental health. For example, recent research suggests that the negative effects of imprisonment on mental health is contingent on whether or not one is currently in prison (Porter & DeMarco, 2019). While being incarcerated is a negative life event with detrimental mental health effects, it may also have the potential to lead to adaptive outcomes.

4.5 Conclusion

People who believe that the world treats them fairly experience a sense of empowerment, higher levels of wellbeing, optimism, and resilience, and decreased psychological distress. This pattern of associations is the same for prisoners as it is for people in the general population. That is, while prisoners may experience more mental health related issues, those who believe the world is just tend to be buffered from the worst of these issues. It appears that having a positive view of justice in one's own world is empowering and adaptive, even when confronted with the reparation of wrongdoing within the criminal justice system.

References

- Anderson, C., John, O. P., & Keltner, D. (2012). The personal sense of power. *Journal of Personality, 80*(2), 313–344. <https://doi.org/10.1111/j.1467-6494.2011.00734.x>
- Bartholomaeus, J., & Strelan, P. (2019). The adaptive, approach-oriented correlates of belief in a just world for the self: A review of the research. *Personality and Individual Differences, 151*, 109485. <https://doi.org/10.1016/j.paid.2019.06.028>
- Bartholomaeus, J., Strelan, P., & Burns, N. (2021). Looking on the bright side: Belief in a just world for the self empowers more positive and less negative affect [Manuscript submitted for publication]. School of Psychology, The University of Adelaide.
- Bartholomaeus, J., Strelan, P., & Burns, N. (2021) . Using structural equation modelling to investigate the empowering effect of belief in a just world on adaptive psychological functioning [Unpublished manuscript]. School of Psychology, The University of Adelaide.
- Bartlett, A., & Hollins, S. (2018). Challenges and mental health needs of women in prison. *The British Journal of Psychiatry, 212*(3), 134–136. <https://doi.org/10.1192/bjp.2017.42>
- Buuren, S., & Groothuis-Oudshoorn, K. (2010). mice: Multivariate imputation by chained equations in R. *Journal of Statistical Software, 45*(3).
- Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology, 67*(2), 319–333. <https://doi.org/10.1037/0022-3514.67.2.319>
- Dalbert, C., & Filke, E. (2007). Belief in a personal just world, justice judgments, and their functions for prisoners. *Criminal Justice and Behavior, 34*(11), 1516–1527. <https://doi.org/10.1177/0093854807306835>
- Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative

feelings. *Social Indicators Research*, 97(2), 143–156. <https://doi.org/10.1007/s11205-009-9493-y>

Edgemon, T. G., & Clay-Warner, J. (2019). Inmate mental health and the pains of imprisonment.

Society and Mental Health, 9(1), 33–50. <https://doi.org/10.1177/2156869318785424>

Fazel, S., Hayes, A. J., Bartellas, K., Clerici, M., & Trestman, R. (2016). Mental health of prisoners: Prevalence, adverse outcomes, and interventions. *The Lancet Psychiatry*, 3(9),

871–881. [https://doi.org/10.1016/S2215-0366\(16\)30142-0](https://doi.org/10.1016/S2215-0366(16)30142-0)

Fazel, S., & Seewald, K. (2012). Severe mental illness in 33 588 prisoners worldwide: Systematic review and meta-regression analysis. *The British Journal of Psychiatry*, 200(5), 364–373.

<https://doi.org/10.1192/bjp.bp.111.096370>

Galinsky, A. D., Rucker, D. D., & Magee, J. C. (2015). Power: Past findings, present considerations, and future directions. In M. Mikulincer, P. R. Shaver, J. A. Simpson, & J. F. Dovidio (Eds.), *APA handbooks in psychology. APA handbook of personality and social psychology: Vol. 3. Interpersonal relations* (pp. 421–460). American Psychological Association.

Gu, H., Lu, Y., & Cheng, Y. (2020). Negative life events and nonsuicidal self-injury in prisoners: The mediating role of hopelessness and moderating role of belief in a just world. *Journal of Clinical Psychology*, 1–11.

<https://doi.org/10.1002/jclp.23015>

Gummerum, M., & Hanoch, Y. (2012). Altruism behind bars: Sharing, justice, perspective taking and empathy among inmates. *Social Justice Research*, 25(1), 61–78.

<https://doi.org/10.1007/s11211-012-0149-8>

Hafer, C. L., & Bègue, L. (2005). Experimental research on just-world theory: Problems, developments, and future challenges. *Psychological Bulletin*, 131(1), 128–167.

<https://doi.org/10.1037/0033-2909.131.1.128>

- Hafer, C. L., Busseri, M. A., Rubel, A. N., Drolet, C. E., & Cherrington, J. N. (2019). A latent factor approach to belief in a just world and its association with well-being. *Social Justice Research, 33*, 1–17. <https://doi.org/10.1007/s11211-019-00342-8>
- Hafer, C. L., & Sutton, R. (2016). Belief in a just world. In C. Sabbagh & M. Schmitt (Eds.), *Handbook of social justice theory and research* (pp. 145–160). https://doi.org/10.1007/978-1-4939-3216-0_8
- Heigel, C. P., Stuewig, J., & Tangney, J. P. (2010). Self-reported physical health of inmates: Impact of incarceration and relation to optimism. *Journal of Correctional Health Care, 16*(2), 106–116. <https://doi.org/10.1177/1078345809356523>
- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences, 33*(2–3), 61–83. <https://doi.org/10.1017/S0140525X0999152X>
- Keith, T. Z. (2006). *Multiple Regression and Beyond*. Boston, MA: Pearson Education.
- Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review, 110*(2), 265–284. <https://doi.org/10.1037/0033-295X.110.2.265>
- Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S.-L., . . . Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine, 32*(6), 959–976. <https://doi.org/10.1017/S0033291702006074>
- Keyes, C. L. (2005). Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of Consulting and Clinical Psychology, 73*(3), 539–548. <https://doi.org/10.1037/0022-006X.73.3.539>
- Lerner, M. J., & Miller, D. T. (1978). Just world research and the attribution process: Looking back and ahead. *Psychological Bulletin, 85*(5), 1030–1051. <https://doi.org/10.1037/0033-2909.85.5.1030>

- Lerner, M. J., Miller, D. T., & Holmes, J. G. (1976). Deserving and the emergence of forms of justice. In L. Berkowitz & E. Walster (Eds.), *Advances in experimental social psychology* (Vol. 9, pp. 133–162). Elsevier.
- Lerner, M. J., & Simmons, C. H. (1966). Observer's reaction to the "innocent victim": Compassion or rejection? *Journal of Personality and Social Psychology*, 4(2), 203–210.
<https://doi.org/10.1037/h0023562>
- Lipkus, I. M., Dalbert, C., & Siegler, I. C. (1996). The importance of distinguishing the belief in a just world for self versus for others: Implications for psychological well-being. *Personality and Social Psychology Bulletin*, 22(7), 666–677. <https://doi.org/10.1177/0146167296227002>
- Lo, L., Iasiello, M., Carey, M., & Van Agteren, J. (2020). Improving the wellbeing of female prisoners via psychological skills training: A feasibility study. *International Journal of Offender Therapy and Comparative Criminology*, 64(15), 1571–1586.
<https://doi.org/10.1177/0306624X20928029>
- Otto, K., & Dalbert, C. (2005). Belief in a just world and its functions for young prisoners. *Journal of Research in Personality*, 39(6), 559–573. <https://doi.org/10.1016/j.jrp.2005.01.004>
- Porter, L. C., & DeMarco, L. M. (2019). Beyond the dichotomy: Incarceration dosage and mental health. *Criminology*, 57(1), 136–156. <https://doi.org/10.1111/1745-9125.12199>
- Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*, 67(6), 1063–1078.
<https://doi.org/10.1037/0022-3514.67.6.1063>
- Seery, M. D. (2011). Resilience: A silver lining to experiencing adverse life events? *Current Directions in Psychological Science*, 20(6), 390–394.
<https://doi.org/10.1177/0963721411424740>

Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine, 15*(3), 194–200. <https://doi.org/10.1080/10705500802222972>

Sygit-Kowalkowska, E., Szrajda, J., Weber-Rajek, M., Porazyński, K., & Ziółkowski, M. (2017). Resilience as a predictor of mental health of incarcerated women. *Psychiatria Polska, 51*(3), 549–560. <https://doi.org/10.12740/PP/OnlineFirst/62617>

Yi, Y., Turney, K., & Wildeman, C. (2017). Mental health among jail and prison inmates. *American Journal of Men's Health, 11*(4), 900–909. <https://doi.org/10.1177/1557988316681339>

CHAPTER 5

General Discussion

5.1 Summary of Findings

The primary aim of this thesis was to explore the empowering role of BJW-self in adaptive psychological functioning. Specifically, I set out to test the idea that a sense of empowerment functions as a mechanism by which BJW-self facilitates positive outcomes. Across five studies and eight independent samples I have presented mostly confirmatory evidence for the explanatory role of empowerment in linking BJW-self with adaptive functioning.

In Chapter 2, I tested a latent variable SEM model of the associations between BJW-self, empowerment, and adaptive functioning, as measured by indices of life satisfaction, meaning in life (presence and search), optimism, resilience, depression, anxiety, and stress. The model showed acceptable fit in both Samples 1 and 2. BJW-self showed small (Sample 1) and negligible (Sample 2) indirect effects on the search for meaning in life, indicating that BJW-self may not be centrally important in explaining one's drive to search for meaning in life. Further, BJW-self did not show temporal predictive validity over a period of one year. In Subsample 3 effect estimates were negligible between T1 BJW-self and T2 empowerment. However, direct effects of T1 BJW-self and T1 empowerment on the T2 outcomes of life satisfaction, optimism, resilience, depression, anxiety, and stress were moderate to large. Given the small sample size, however, confidence intervals were large, and any interpretation

of these effect estimates may be biased. The findings from Sample 1 and 2 support the functional role of empowerment in explaining why BJW-self is associated with positive outcomes. Findings from Subsample 3 provide ambiguous evidence about the functional role of empowerment but highlights the importance and challenges of longitudinal research within the study of BJW. Evidence from across these samples provided initial tentative confirmation of the empowering role of BJW-self.

In Chapter 3, I tested the causal associations between BJW-self, empowerment, and positive and negative affect across three studies. The findings from Study 1 provided an initial indication that all variables covaried as expected and of the direct and indirect associations between BJW-self, empowerment, and positive and negative affect. BJW-self was positively associated with empowerment and increased positive affect and decreased negative affect. Study 2 was designed to test specifically the causal association between empowerment and affect. Participants recalled a time when they gained or lost power, which in turn induced a sense of empowerment or disempowerment. Empowered participants reported higher levels of positive affect and decreased levels of negative affect, but no differences in measures of BJW. This study showed that the mediator, a sense of empowerment, temporally preceded and therefore had a causal influence of affect. It also indicates that manipulations of empowerment did not influence trait levels of either BJW-self or BJW-other. Study 3 used an experimental manipulation to test whether confirmation or disconfirmation of BJW-self would influence participant's empowerment, and positive and negative affect. Participants who had their BJW-self affirmed, by being told that they could expect just rewards for the effort they were putting into their university education, reported feeling empowered and higher levels of positive affect and lower levels of negative affect. Taken together, the series of studies reported in Chapter 3 provides evidence for the causal influence of BJW-self on affect through the mechanism of empowerment.

Finally, in Chapter 4, I explored the empowering role of BJW-self in a sample of female prisoners. Specifically, I sought to understand whether the role of empowerment that I had observed in samples from the general population would be replicated in prisoners who were currently incarcerated. To do this I compared the associations between BJW-self, empowerment, wellbeing, optimism, resilience, and psychological distress between a sample of female prisoners and a gender-, age-, and ethnicity-matched sample from the general population. Path analysis indicated that the prisoners did not differ significantly in their reports of BJW-self, empowerment, optimism, or wellbeing from the general population sample. However, prisoners did report increased levels of psychological distress and notably resilience. As expected, the analysis also indicated that BJW-self was positively associated with empowerment, and adaptive functioning similarly for prisoners and non-prisoners alike. These findings indicate that BJW-self functions to empower positive outcomes regardless of the individual's objective circumstance.

5.2 Theoretical Implications and Considerations

Initial work codifying the mechanisms by which BJW-self influences outcomes suggested that it did so primarily through the functions of assimilation, motivation, and trust (Dalbert, 2001). The notion that BJW-self might also function through a sense of empowerment, while present in Lerner's (1980) seminal BJW theory, has however received relatively little empirical investigation. The collection of studies in the dissertation fills this void in providing empirical evidence showing that BJW-self leads to adaptive outcomes because it provides the individual with a sense of empowerment, characterised by a feeling of autonomy, control over their environment, and the ability to determine their own fate. Further, this evidence is wide-ranging as it, a) maps the empowering function of BJW-self onto a broad number of indices of adaptive functioning, b) provides indications of the causal order, and c) demonstrates applicability of the function across a diverse range of samples

experiencing vastly different life circumstances (i.e., prisoners, university students, people living in different countries, and people of different nationalities).

5.2.1 A Sense of Control and Empowerment

The notion of control was central to the initial development of BJW theory. Lerner (1980) suggests that one of the reasons why people developed BJW was because it provided them with a systematic understanding of the world that, once obtained, allowed them to feel as though they could exert a level of control over their environment. This thesis, in building on Lerner's ideas, suggests that it is not only control that is important in promoting adaptive functioning but also sense of empowerment. While control pertains to perceived resources and limitations specific to achieving a concrete goal in a set environment or domain of life (Lachman & Weaver, 1998), empowerment is more global and agentic in nature. That is, empowerment refers to a sense of social and personal freedom: to do as one pleases; to be free from the influence of others; and to have authority over one's own fate (Lammers et al., 2016; Leach et al., 2017). Arguably, empowerment is the more important logical consequence of BJW-self, insofar as one's sense of control over their environment or future flows from a broader sense of agency and freedom to move confidently through life.

Indeed, research suggests that a sense of empowerment precedes domain specific feelings of control. Experimental evidence shows that more powerful individuals feel as though they have higher levels of control over outcomes beyond their reach (Fast et al., 2009). Additionally, evidence suggests that perceived control is the mechanism by which empowerment fosters the adaptive outcomes of optimism, self-esteem, and action orientation (Fast et al., 2009). Throughout this thesis I have extended BJW theory by establishing the importance of empowerment as a mechanism by which BJW-self promotes adaptive functioning. It is possible that empowerment, arising from BJW-self, informs one's sense of

perceived control which then promotes adaptive outcomes. Testing this extended causal chain was beyond the scope of this thesis but provides one possible avenue for future research.

5.2.2 The Association Between Empowerment, Assimilation, Motivation, and Trust

Considering the findings presented here in the broader theoretical context leads to a pertinent question: Does the empowering function of BJW-self sit alongside assimilation, motivation, and trust, or does it subsume these functions as a higher-order process? In the absence of comparative empirical evidence, the default assumption is that empowerment is likely one of the four mechanisms by which BJW-self promotes positive functioning. However, a deeper look at theory provides some indication that assimilation, motivation, and trust may all contribute to, or flow from, the empowerment mechanism.

The *assimilation* function allows people to maintain their BJW by updating their worldview with information obtained from novel life events (Dalbert, 2001). They do this by searching for a cause that might have logically preceded the event. By finding a logical explanation for an unjust life event people continue to feel as though their world makes sense, i.e., every event can be logically explained, and their world remains just. For example, research suggests that the restoration of justice in one's relationships is empowering (Strelan et al., 2017). It is likely that the process of repeatedly encountering injustices in one's day-to-day life and restoring them by the process of assimilation is also empowering.

The *motivation* function prompts people to behave justly, that is, to treat others fairly and to act in accordance with the laws of justice. This function arises from the individual's subscription to the personal contract and the notion of reciprocal return: you reap what you sow. Acting on this belief allows the individual to exert a direct sense of control over their current and future circumstances. This mechanism likely generates a sense of empowerment as the individual exerts influence over their fate. Finally, the *trust* function of BJW-self promotes trust in others and that the individual's fate will also be just. People with a strong

endorsement of BJW-self believe that the world and outcomes of events are stable, orderly, and predictable, therefore, they feel as though they can predict what will happen in the future based on their knowledge of what has happened in the past. Lount and Pettit (2012) suggest that power and status lead to a willingness to trust in others. Therefore, people experiencing elevated levels of empowerment may be more disposed to put their trust in others and in their just fate.

If the empowerment function is one of four competing processes, then future research might demonstrate individual preference for a process. The selection of one of the competing processes may be determined on an individual differences basis or may be dictated by the context. For example, individuals predisposed to have a high need for cognition or high need for completion may show a preference for the assimilation function as this helps them to understand circumstances and fulfills their need for knowledge. Alternatively, a context where action over understanding is required to produce the most beneficial outcome may provoke a preference for the empowerment function. If the empowerment function subsumes the three functions than the elicitation of each of the three functions—regardless of whether they manifest on an individual differences or contextual basis—should in some way contribute to the individual's sense of empowerment.

5.3 Methodological Implications

This dissertation contributes a number of methodological advances to the study of BJW-self. Within BJW-self scholarship, the majority of studies use cross-sectional designs, with a paucity of research utilising longitudinal or experimental designs. As a result, there is need for knowledge on how to best approach the issues of possible change or stasis of the just world belief system in longitudinal designs, and on how to best target and manipulate BJW-self in experimental designs.

5.3.1 Longitudinal Research

My longitudinal investigation provides insight on the stability and change of BJW-self and empowerment and raises a number of considerations for future longitudinal research in the field. Careful consideration needs to be given to the expected direction and magnitude of change in longitudinal designs. Many statistical techniques used for longitudinal research are predicated on the notion of change over time (Cole & Maxwell, 2003). As I observed in my longitudinal study BJW-self and empowerment seemed to be relatively stable over time. This stability, and not necessarily the absence of a relation, may have been the reason for the observed negligible effect sizes. Researchers should take into account the stability of these constructs when planning future longitudinal research.

Additionally, the length of time between measurements and the number of measurements should be considered when planning a longitudinal study of BJW-self. To test longitudinal mediation, a minimum of three measurement points is required, with sufficient space between measurements to allow for the temporal effects to be passed to the next variable in the causal chain (Cole & Maxwell, 2003). In Subsample 3 (Chapter 2), measurements were spaced one year apart. While theoretically this allowed sufficient time for the effects of BJW-self to be passed on to a sense of empowerment, practically it led to low participant retention. Due to the high levels of attrition, a third measurement was considered redundant as there would have been too few participants in the third measure to provide sufficient statistical power. Future longitudinal mediational research in this field should aim for shorter periods between measures and to include more measurements as this will likely improve participant retention and provide a sufficient number of measures at a sufficient statistical power to observe the over-time effects of BJW-self on empowerment and subsequently on adaptive psychological outcomes.

5.3.2 Experimental Designs: Implicit Motivation vs Explicit Trait

Just world research has traditionally been divided into two camps. The first conceptualises BJW as an implicit motivation implicitly endorsed by all people. Because BJW is a preconscious implicit process, any conscious processing may subject it to impression management and thus skew the individual's expression of their BJW (Lerner, 2003). For this reason, research paradigms designed to elicit extreme and automatic responses are used to provide an opportunity to observe the unhindered expression of BJW. The second camp think of BJW as an explicit individual difference variable. This approach focuses less on the situation specific cues that might elicit a just world reaction and more on the strength of the individual's dispositional belief. BJW conceptualised as a trait-like variable can be measured using self-report instruments and is thought to be unobscured by conscious processing.

This thesis makes a methodological contribution to the field in demonstrating the insight that can be obtained by drawing on both the motivational and trait conceptualisations of BJW. Study 3 (Chapter 3) demonstrates the importance of considering participants' underlying trait beliefs when exposing them to a just world manipulation. Differences in affect between the two experimental groups were significant only when controlling for the participants measures of BJW-self and BJW-other. At a broad level this indicates that peoples' perceptions of situation specific threats to their BJW are contingent upon their dispositional views of how the world operates in general. While this may seem like an obvious conclusion, there is little research that investigates the interplay between motivational and trait BJW, and the research that does rarely explicitly outlines a rationale for doing so (see Hafer & Bègue, 2005 for a review).

With respect to the BJW-self manipulation used in Study 3 (Chapter 3), it is clear how a dispositional tendency to believe the world is just influences the way in which people react

to a just world disconfirmation. Those with a stronger endorsement of BJW-self are more likely to assimilate a disconfirmation of their BJW-self into their world view (Dalbert, 2001). This assimilation process, as discussed earlier, likely leads to an increased sense of empowerment. Because the individual is processing the just world disconfirmation in an adaptive manner, they are less likely to show the detrimental outcomes associated with encountering a just world disconfirmation. With careful consideration of the theory and the possible interactions between motivation and disposition, both measuring and manipulating BJW can provide a more nuanced insight into the functioning of BJW.

Another methodological contribution of this thesis is the consideration given to the various parameters that need to be accounted for when studying BJW-self in an experimental setting. Unlike explicit trait measures of BJW-self and BJW-other—where a relatively clear delineation between the correlates is observed—the differentiation in the manipulation of BJW-self and BJW-other is less clearly defined. Observers' reactions to the traditional innocent victim scenario (Lerner & Simmons, 1966), when understood through the self/other distinction, reveal the difficulties of manipulating only one of these variables in an experimental setting. While the suffering of another person likely reflects the excitation of the BJW-other construct, it is important to remember that another's suffering is only disconcerting to the extent to which it suggests that the observer's own world is unjust—reasoning which reflects the BJW-self construct. Observers react differently to the suffering of others depending on how close or distant the victim's world is to their own, and by extension, whether the victims suffering suggests that something similar may happen in the observer's world (Lerner & Miller, 1978).

In Study 3 (Chapter 3), it was only possible to confirm or disconfirm the justness of the participants' world (i.e., manipulate BJW-self) by referencing the experiences of others. This reference to the experience of others may elicit notions of BJW-other thereby

contaminating the manipulation. From this initial work it appears that any attempt to manipulate BJW-self without reference to BJW-other, and visa-versa, is difficult. Outlining these experimental considerations of the manipulation of BJW-self provides a platform on which future research can build. One way forward may be to measure trait levels of BJW-self and BJW-other (either before or after the manipulation) in order to gain an insight into the differential effects of the manipulation on these two facets of BJW.

5.3.3 Structural Equation Modelling

Finally, the application of latent variable structural equation modelling (SEM) to the individual differences study of BJW-self (Chapter 2 and Chapter 3, Study 1) provides another methodological contribution to the field. While some researchers have employed SEM in the study of BJW (Alt, 2014; Hafer, 2019) it is not widely used. Latent variable SEM has the advantage of controlling for measurement error and more accurately representing latent constructs in self-report data. It also provides model fit statistics for the measurement of a given construct and an indication of how well each item loads on its target latent construct. Using latent variable SEM, I was able to identify the relatively poor performance of the eighth items in both the BJW-self and BJW-other scales (Lipkus et al., 1996) across two independent samples (Chapter 2). Wider adoption of latent variable SEM techniques in the study of BJW-self will add clarity and specificity to the analysis of correlational data therefore providing more insight over traditional analyses.

5.4 Strengths and Limitations

This dissertation, as a whole, has a number of strengths and limitations. First, in establishing the BJW-self function of empowerment I neglected to test how this function relates to the already-established processes of assimilation, motivation, and trust. This is partially because there are no accepted or standard methodologies for measuring these functions—making a direct comparison difficult—and partially as it fell outside the scope of

the work. This limitation is, however, offset by the fact that all hypotheses and research questions addressed in this thesis were derived from strong theoretical underpinnings. Two key texts (Dalbert, 2001; Lerner, 1980) provided the theoretical foundation for this work and as a result, the findings presented here logically build on existing justice motive theory and therefore make a meaningful and interpretable contribution to the field. Because this work is tightly associated with existing theory it provides a platform on which future research can address the question of whether empowerment sits alongside the three functions or subsumes them.

Second, a large proportion of the findings presented here are correlational. A central concept of this thesis is the inference of causation—BJW-self causes one to feel empowered, this feeling of power then causes positive outcomes. Correlational findings do not give an indication of causal inference; therefore, any suggestion of causation is done so on a theoretical basis. The correlational designs included here are, however, complemented by the inclusion of experimental and longitudinal designs. The series of experiments outlined in Chapter 3 provide evidence for the causal associations between BJW-self, empowerment, and affect (one aspect of adaptive psychological functioning). Although the longitudinal study in Chapter 2 did not provide strong evidence for the influence of BJW-self on power over time, the findings did indicate that BJW-self and power both independently contributed to increased positive functioning and decrease negative functioning over time for the small sample of students that constituted Subsample 3. Using a combination of correlational, experimental, and longitudinal studies, in conjunction with a detailed theoretical framework, allows for a reasonable causal inference to be made on the whole between BJW-self, empowerment, and adaptive functioning.

Finally, the participants for these studies are drawn predominately from convenient student and online populations. Many issues have been raised about the generalisability of

results based solely on student populations (Henrich et al., 2010) and the presence of ‘professional respondents’—that is people who fill out large numbers of online surveys quickly for financial remuneration thus providing poor quality data—in online samples (Zhang et al., 2020). Having a combination of student and online samples (as well as a prisoner sample) offsets, to an extent, the limitations presented by each of these samples individually. The diversity of the samples combined with the consistency of the findings lends a level of robustness to the overall contribution of this dissertation. While four of the samples used were young university student samples, complementary findings were observed in a large Australia-wide and smaller worldwide internet sample. Additionally, Chapter 4 outlines similar findings with gender-, age-, and ethnicity-matched samples of prisoners and non-prisoners. The prisoner sample is a unique demographic population, the replication of the findings with this sample provides further evidence for the applicability of the empowering function of BJW-self across diverse populations and contexts.

5.5 Future Research

Although the focus of this dissertation has been on the positive outcomes associated with the empowering function of BJW-self, it would be incorrect to assume that all outcomes associated with empowerment are positive. Here I use the term ‘positive’ to denote outcomes that are desirable for the self and/or society. The empowering function of BJW-self does not guarantee positive outcomes, only outcomes that are adaptive for the individual; that is to say BJW-self is morally ambiguous with regard to the outcomes it promotes. Adaptive outcomes assist people in making sense out of random life events; provide a sense of understanding that will enable them to navigate their world; and help people to functioning optimally in their environment. In many instances BJW-self may lead to outcomes that are both adaptive and desirable (as presented throughout this dissertation), however, there may be many instances where BJW-self produces adaptive outcomes that are undesirable but nonetheless ensure

optimal and adaptive psychological functioning. This concept is demonstrated clearly by the functioning of BJW-other which works to help people make sense of their world sometimes at the expense of maintaining social bonds or showing compassion to innocent victims (Hafer & Sutton, 2016). These outcomes are undesirable, but adaptive. Similarly, BJW-self may also promote adaptive outcomes that are undesirable.

5.5.1 The Self-serving Bias

Take, for example, the self-serving bias. This bias is characterised by the tendency for individuals to asymmetrically attribute successful outcomes to their own efforts and negative outcomes to the efforts of others (Lammers & Burgmer, 2019). The self-serving bias can be linked with the empowering mechanism of BJW-self. It is well documented that people generally believe the world is more just for themselves compared to others (Dalbert, 1999). The tendency to believe that one's own life will play out better than the lives of others aligns with the tenets of the self-serving bias. If the world is more just for the self than others, the individual is more likely to receive the good rewards for their work compared to others, that is, to experience more success. In terms of empowerment, Lammers and Burgmer (2019) suggest that an increased sense of power is associated with a higher endorsement of the self-serving bias due to the individual experiencing increased cognitive flexibility (having the flexibility to attribute successes to themselves and failures to others); being more likely to hold the spotlight and, therefore, needing to present themselves in the best possible light; and having increased safety and freedom from threats.

The self-serving bias is adaptive (Greenberg et al., 1992), but also displays a number of undesirable associations. Research suggests that self-serving strategies are associated with the narcissistic dimensions of grandiosity and entitlement (Tamborski et al., 2012) and the 'justification of wrongdoing' aspect of the self-serving bias has been associated with sexual infidelity (Warach et al., 2018). In an organisational context, when the bias is exhibited by

leaders it has been connected to the hindrance of teamwork, specifically team creativity (Peng et al., 2019). Future experimental research might investigate how BJW-self and empowerment promote the self-serving bias by investigating individual's attributions of success task completion in lab-based group tasks after a BJW-self manipulation.

5.5.2 Illusory Control

Another example of a possibly adaptive but undesirable outcome of the empowering mechanism of BJW-self is that of illusory control, which is the belief that one can influence outcomes beyond their reach (Fast et al., 2009). BJW is tightly intertwined with the illusory notion that one can exert an influence over what happens in their lives and the way in which the world treats them (Lerner, 1980). Through subscribing to the terms of the personal contract—which state that in order to gain greater long-term rewards people must forgo meeting their immediate needs and invest in the future—people believe they can exert control over their destiny or fate (Lerner et al., 1976). Empirical evidence suggests that power, too, has an association with illusory control. Fast et al. (2009) suggest that it is the mechanism by which many positive outcomes are associated with experienced power.

Perceived control is considered central to adaptive psychological functioning, showing important relations with self-esteem, optimism, and agency; its absence associated with depression, pessimism, and withdrawal from challenging situations (see Fast et al., for a review). However, increased illusory control, while reducing negative affect, does not necessarily increase positive affect (Kaufmann et al., 2019), indicating that it does not foster happiness. Increased illusory control is also associated with erroneous and potentially damaging superstitious beliefs (Griffiths et al., 2019). Additionally, evidence suggests that high levels of illusory control may be maladaptive for new mothers, insofar as they overestimate their abilities to calm their infants thus leading to an increased susceptibility to learned helplessness (Donovan et al., 1990). Future research might explore individuals'

reports of perceived level of control over outcomes of games of chance after exposure to a BJW-self manipulation.

5.5.3 The Optimism Bias

A third example of an adaptive yet undesirable outcome of BJW-self and empowerment comes from the study of the optimism bias, which is predicated on the unrealistic expectation that the individual is more likely, compared to others, to attain desirable outcomes and avoid undesirable outcomes (Strelan & Callisto, 2020). The theoretical association between BJW-self and the optimism bias is similar to that of the self-serving bias. People believe that the world is more likely to treat them fairly than it treats others (Dalbert, 1999). Preliminary empirical evidence suggests an association between measures of BJW-self and unrealistic optimism (Strelan & Callisto, 2020). Similarly, a sense of empowerment is associated with optimistic risk perceptions, and increased risk-taking behaviour, because the individual is more confident that the risk will pay off in their favour (Anderson & Galinsky, 2006).

The optimism bias can function adaptively. In an academic context, research suggests that the optimism bias results in higher perceived control over one's academic performance, higher wellbeing, and ultimately results in better academic performance (Ruthig et al., 2007). However, the optimism bias also has well documented negative associations. Young drivers rate their likelihood of having an accident as lower than similar aged peers and older, more experienced, drivers (Gosselin et al., 2010). The tendency to be overly optimistic about road safety may result in young drivers being less likely to engage in precautionary driving behaviours and being more likely to engage in dangerous driving behaviours. Valuable insight can be gained from evaluations of unrealistic optimism, operationalised by risk-taking behaviour on laboratory gambling tasks, after a BJW-self manipulation.

5.5.4 The Role of BJW-self Threat

It is possible that context may be the pivot point that determines whether BJW-self leads to desirable or undesirable adaptive outcomes. Under everyday conditions BJW-self may function to promote desirable and prosocial adaptive functioning, but when faced with BJW-self threat people may react in extreme ways to protect their just world. That is to say the most undesirable and morally negative (yet still adaptive) outcomes may be elicited in the face of BJW-self threat. A threat to BJW-self may elicit a stronger tendency to focus on the positive outcomes of one's behaviour (the self-serving bias) in an attempt to draw attention to the individual's successful contributions to their fate and to ignore that part of their fate that is random. Moreover, the self-serving bias may prompt individuals to justify wrongdoing (Warach et al., 2018) in the attempt to maintain their BJW-self. Illusory control may be amplified in the face of a BJW-self threat as the individual assimilates the threat into their worldview and over-generalises the extent of their control on the world around them; they might think, "If only I had left the house five minutes earlier, I wouldn't have had the car accident".

Finally, BJW-self threat may elicit a heightened optimistic bias. When encountering an underserved negative event, individuals—as a coping mechanism—may be more likely to think of themselves as a special case. That is, they may rationalise that their circumstances are more specific and nuanced compared others. This, in turn, may lead to the unrealistic expectation that the individual's scenario will resolve in a more favourable way than it would for others. Constraining the generation of novel hypotheses exclusively to the desirable outcomes potentially associated with BJW-self is to miss out on an intricate and important functional aspect of the BJW-self construct. Future research should span both the desirable and undesirable adaptive outcomes of BJW-self, the undesirable outcomes may in some cases be the most adaptive.

5.6 Conclusion

The work presented in this dissertation provides new insight into a mechanism by which BJW-self promotes adaptive functioning, the mechanism of empowerment. By providing the individual with sense of empowerment over their lives and their fate BJW-self appears to promote positive affect, life satisfaction, wellbeing, the presence of meaning in life, optimism, and resilience, and leads to decreased levels of negative affect, depression, anxiety, stress, and psychological distress. This mechanism is at work in a large and diverse number of populations, even functioning for prisoners facing the consequences of their crimes in the criminal justice system. Throughout this dissertation I have made several theoretical contributions to the field including primarily empirically substantiating the empowering role of BJW-self and situating the study of this empowering function within existing theory, specifically with reference to the assimilation, motivation, and trust functions. This dissertation also presents a number of methodological achievements in the study of BJW-self including advancing the use of longitudinal methods to study BJW-self; the use and clarification of experimental manipulations that consider the interaction between motivation and dispositional BJW and take into account the difficulties of separating manipulations of BJW-self and BJW-other; and the application of latent variable SEM in mapping the association between BJW-self, empowerment, and a number of latent constructs. Finally, I have outlined several possibilities for future research to understand the adaptive yet undesirable outcomes of the empowering function of BJW-self. Regardless of whether the outcomes are socially or personally desirable, it is apparent that BJW-self will function through a sense of empowerment to promote adaptive psychological functioning in everyday life.

References

- Alt, D. (2014). Using structural equation modeling and multidimensional scaling to assess students' perceptions of the learning environment and justice experiences. *International Journal of Educational Research*, 69, 38–49. <https://doi.org/10.1016/j.ijer.2014.10.001>
- Anderson, C., & Galinsky, A. D. (2006). Power, optimism, and risk-taking. *European Journal of Social Psychology*, 36(4), 511–536. <https://doi.org/10.1002/ejsp.324>
- Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: Questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology*, 112(4), 558–577. <https://doi.org/10.1037/0021-843X.112.4.558>
- Dalbert, C. (1999). The world is more just for me than generally: About the personal belief in a just world scale's validity. *Social Justice Research*, 12(2), 79–98.
<https://doi.org/10.1023/A:1022091609047>
- Dalbert, C. (2001). *The justice motive as a personal resource: Dealing with challenges and critical life events*. Kluwer Academic/Plenum Publishers.
- Donovan, W. L., Leavitt, L. A., & Walsh, R. O. (1990). Maternal self-efficacy: Illusory control and its effect on susceptibility to learned helplessness. *Child Development*, 61(5), 1638–1647.
<https://doi.org/10.1111/j.1467-8624.1990.tb02890.x>
- Fast, N. J., Gruenfeld, D. H., Sivanathan, N., & Galinsky, A. D. (2009). Illusory control: A generative force behind power's far-reaching effects. *Psychological Science*, 20(4), 502–508.
<https://doi.org/10.1111/j.1467-9280.2009.02311.x>
- Gosselin, D., Gagnon, S., Stinchcombe, A., & Joanisse, M. (2010). Comparative optimism among drivers: An intergenerational portrait. *Accident Analysis & Prevention*, 42(2), 734–740.
<https://doi.org/10.1016/j.aap.2009.11.001>

- Greenberg, J., Pyszczynski, T., Burling, J., & Tibbs, K. (1992). Depression, self-focused attention, and the self-serving attributional bias. *Personality and Individual Differences, 13*(9), 959–965. [https://doi.org/10.1016/0191-8869\(92\)90129-D](https://doi.org/10.1016/0191-8869(92)90129-D)
- Griffiths, O., Shehabi, N., Murphy, R. A., & Le Pelley, M. E. (2019). Superstition predicts perception of illusory control. *British Journal of Psychology, 110*(3), 499–518. <https://doi.org/10.1111/bjop.12344>
- Hafer, C. L., & Bègue, L. (2005). Experimental research on just-world theory: Problems, developments, and future challenges. *Psychological Bulletin, 131*(1), 128–167. <https://doi.org/10.1037/0033-2909.131.1.128>
- Hafer, C. L., Busseri, M. A., Rubel, A. N., Drolet, C. E., & Cherrington, J. N. (2019). A Latent Factor Approach to Belief in a Just World and its Association with Well-Being. *Social Justice Research, 33*, 1–17. <https://doi.org/10.1007/s11211-019-00342-8>
- Hafer, C. L., & Sutton, R. (2016). Belief in a just world. In C. Sabbagh & M. Schmitt (Eds.), *Handbook of Social Justice Theory and Research* (pp. 145–160). Springer. https://doi.org/10.1007/978-1-4939-3216-0_8
- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences, 33*(2–3), 61–83. <https://doi.org/10.1017/S0140525X0999152X>
- Kaufmann, M., Goetz, T., Lipnevich, A. A., & Pekrun, R. (2019). Do positive illusions of control foster happiness? *Emotion, 19*(6), 1014–1022. <https://doi.org/10.1037/emo0000499>
- Lachman, M. E., & Weaver, S. L. (1998). The sense of control as a moderator of social class differences in health and well-being. *Journal of Personality and Social Psychology, 74*(3), 763–773. <https://doi.org/10.1037/0022-3514.74.3.763>
- Lammers, J., & Burgmer, P. (2019). Power increases the self-serving bias in the attribution of collective successes and failures. *European Journal of Social Psychology, 49*(5), 1087–1095. <https://doi.org/10.1002/ejsp.2556>

- Lammers, J., Stoker, J. I., Rink, F., & Galinsky, A. D. (2016). To have control over or to be free from others? The desire for power reflects a need for autonomy. *Personality and Social Psychology Bulletin*, 42(4), 498–512. <https://doi.org/10.1177/0146167216634064>
- Leach, S., Weick, M., & Lammers, J. (2017). Does influence beget autonomy? Clarifying the relationship between social and personal power. *Journal of Theoretical Social Psychology*, 1(1), 5–14. <https://doi.org/10.1002/jts5.5>
- Lerner, M. J. (1980). *The Belief in a Just World: A Fundamental Delusion*. Springer US.
- Lerner, M. J. (2003). The justice motive: Where social psychologists found it, how they lost it, and why they may not find it again. *Personality and Social Psychology Review*, 7(4), 388–399. https://doi.org/10.1207/S15327957PSPR0704_10
- Lerner, M. J., & Miller, D. T. (1978). Just world research and the attribution process: Looking back and ahead. *Psychological Bulletin*, 85(5), 1030–1051. <https://doi.org/10.1037/0033-2909.85.5.1030>
- Lerner, M. J., Miller, D. T., & Holmes, J. G. (1976). Deserving and the emergence of forms of justice. In L. Berkowitz & E. Walster (Eds.), *Advances in experimental social psychology* (Vol. 9, pp. 133–162). Elsevier.
- Lerner, M. J., & Simmons, C. H. (1966). Observer's reaction to the "innocent victim": Compassion or rejection? *Journal of Personality and Social Psychology*, 4(2), 203–210. <https://doi.org/10.1037/h0023562>
- Lipkus, I. M., Dalbert, C., & Siegler, I. C. (1996). The importance of distinguishing the belief in a just world for self versus for others: Implications for psychological well-being. *Personality and Social Psychology Bulletin*, 22(7), 666–677. <https://doi.org/10.1177/0146167296227002>
- Lount, R. B., & Pettit, N. C. (2012). The social context of trust: The role of status. *Organizational Behavior and Human Decision Processes*, 117(1), 15–23. <https://doi.org/10.1016/j.obhdp.2011.07.005>

- Peng, J., Wang, Z., & Chen, X. (2019). Does self-serving leadership hinder team creativity? A moderated dual-path model. *Journal of Business Ethics, 159*(2), 419–433.
<https://doi.org/10.1007/s10551-018-3799-0>
- Ruthig, J. C., Haynes, T. L., Perry, R. P., & Chipperfield, J. G. (2007). Academic optimistic bias: Implications for college student performance and well-being. *Social Psychology of Education, 10*(1), 115–137. <https://doi.org/10.1007/s11218-006-9002-y>
- Strelan, P., & Callisto, J. (2020). Good outcomes are more likely for me than you—Especially in a just world. *Personality and Individual Differences, 163*, 110033.
<https://doi.org/10.1016/j.paid.2020.110033>
- Strelan, P., Di Fiore, C., & Van Prooijen, J. (2017). The empowering effect of punishment on forgiveness. *European Journal of Social Psychology, 47*(4), 472–487.
<https://doi.org/10.1002/ejsp.2254>
- Tamborski, M., Brown, R. P., & Chowning, K. (2012). Self-serving bias or simply serving the self? Evidence for a dimensional approach to narcissism. *Personality and Individual Differences, 52*(8), 942–946. <https://doi.org/10.1016/j.paid.2012.01.030>
- Warach, B., Josephs, L., & Gorman, B. S. (2018). Pathways to infidelity: The roles of Self-Serving Bias and betrayal trauma. *Journal of Sex and Marital Therapy, 44*(5), 497–512.
<https://doi.org/10.1080/0092623X.2017.1416434>
- Zhang, C., Antoun, C., Yan, H. Y., & Conrad, F. G. (2020). Professional Respondents in Opt-in Online Panels: What Do We Really Know? *Social Science Computer Review, 38*(6), 703–719. <https://doi.org/10.1177/0894439319845102>

Appendix A: Chapter 2 Sample 1 Survey

Student Life Survey

Welcome!

You've been invited to participate in a study about student wellbeing and world views. Specifically, we're interested in how you feel about your everyday life; how you think about concepts like purpose, religion, and power; and the general life events you may have experienced over the past year.

This survey is 150 questions and should take you around 25 minutes to complete. Please take your time to consider each question and don't rush through. Participation in this study is completely voluntary and you may withdraw at point with no negative consequences to you or your academic record.

You will be able to enter your student information for course credit at the end of the survey.

If you have any queries or complaints about this survey please contact either Jonathan Bartholomaeus at jonathan.bartholomaeus@student.adelaide.edu.au or Dr Peter Strelan at peter.strelan@adelaide.edu.au.

Thank you for taking the time to complete the survey and for your involvement in this project.

Jonathan Bartholomaeus

In agreeing to participate in this project, I state that:

- I am at least 18 years of age.
- I understand that participation in the project is entirely voluntary and I may withdraw from the research project at any stage and that this will not impact negatively on me now or in the future.
- I understand that while information gained during the study may be published, I will not be identified and my personal information will remain confidential.
- I understand that personal information about me that is collected over the course of this project will be stored securely and will only be used for purposes that I have agreed to.

Do you give consent to participant in this study?

Yes

No

Student Life Survey	
Please indicate your degree of agreement (using a score ranging from 1-6) to the following sentences.	
	Strongly disagree Strongly Agree
I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.	○ ○ ○ ○ ○ ○
In general, I feel I am in charge of the situation in which I live.	○ ○ ○ ○ ○ ○
I am not interested in activities that will expand my horizons.	○ ○ ○ ○ ○ ○
Most people see me as loving and affectionate.	○ ○ ○ ○ ○ ○
I live life one day at a time and don't really think about the future.	○ ○ ○ ○ ○ ○
When I look at the story of my life, I am pleased with how things have turned out.	○ ○ ○ ○ ○ ○
My decisions are not usually influenced by what everyone else is doing.	○ ○ ○ ○ ○ ○
The demands of everyday life often get me down.	○ ○ ○ ○ ○ ○
I think it is important to have new experiences that challenge how you think about yourself and the world.	○ ○ ○ ○ ○ ○
Maintaining close relationships has been difficult and frustrating for me.	○ ○ ○ ○ ○ ○
I have a sense of direction and purpose in life.	○ ○ ○ ○ ○ ○
In general, I feel confident and positive about myself.	○ ○ ○ ○ ○ ○

Student Life Survey						
Continued...						
	Strongly disagree					Strongly agree
I tend to worry about what other people think of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not fit very well with the people and the community around me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I think about it, I haven't really improved much as a person over the years.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often feel lonely because I have few close friends with whom to share my concerns.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My daily activities often seem trivial and unimportant to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel like many of the people I know have gotten more out of life than I have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to be influenced by people with strong opinions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am quite good at managing the many responsibilities of my daily life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have the sense that I have developed a lot as a person over time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy personal and mutual conversations with family members or friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey						
Continued...						
	Strongly disagree					Strongly agree
I don't have a good sense of what it is I'm trying to accomplish in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like most aspects of my personality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have confidence in my opinions, even if they are contrary to the general consensus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often feel overwhelmed by my responsibilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not enjoy being in new situations that require me to change my old familiar ways of doing things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People would describe me as a giving person, willing to share my time with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy making plans for the future and working to make them a reality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In many ways, I feel disappointed about my achievements in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's difficult for me to voice my own opinions on controversial matters.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have difficulty arranging my life in a way that is satisfying to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey						
Continued...						
	Strongly disagree					Strongly agree
For me, life has been a continuous process of learning, changing, and growth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have not experienced many warm and trusting relationships with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some people wander aimlessly through life, but I am not one of them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My attitude about myself is probably not as positive as most people feel about themselves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I judge myself by what I think is important, not by the values of what others think is important.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have been able to build a home and a lifestyle for myself that is much to my liking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I gave up trying to make big improvements or changes in my life a long time ago.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know that I can trust my friends, and they know they can trust me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes feel as if I've done all there is to do in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I compare myself to friends and acquaintances, it makes me feel good about who I am.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey							
<p>Below are 8 statements with which you may agree or disagree. Using the 1–7 scale below, indicate your agreement with each item by indicating that response for each statement.</p>							
	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slight agree	Agree	Strongly Agree
I lead a purposeful and meaningful life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My social relationships are supportive and rewarding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am engaged and interested in my daily activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I actively contribute to the happiness and well-being of others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am competent and capable in the activities that are important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a good person and live a good life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am optimistic about my future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People respect me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item. Please be open and honest in your responding.</p>							
	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
In most ways my life is close to my ideal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The conditions of my life are excellent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
So far I have gotten the important things I want in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I could live my life over, I would change almost nothing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey

This scale measures your attitude about how you think you are treated, in general. Please indicate how much you agree or disagree with the following statements.

	Completely disagree	Disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Agree	Completely agree
I feel that the world treats me fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I get what I deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat me fairly in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I earn the rewards and punishments I get.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat me with the respect I deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I get what I am entitled to have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that my efforts are noticed and rewarded.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that when I meet with misfortune, I have brought it upon myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey							
The next scale is concerned with how you think OTHERS are treated, in general. Please indicate how much you agree or disagree with the following statements.							
	Completely disagree	Disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Agree	Completely agree
I feel that the world treats people fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people get what they deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat each other fairly in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people earn the rewards and punishments they get.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat each other with the respect they deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people get what they are entitled to have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that a person's efforts are noticed and rewarded.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that when people meet with misfortune, they have brought it upon themselves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey							
<p>Please take a moment to think about what makes your life feel important to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and that there are no right or wrong answers.</p>							
	Absolutely untrue	Mostly untrue	Somewhat untrue	Can't say true or false	Somewhat true	Mostly true	Absolutely true
I understand my life's meaning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am looking for something that makes my life feel meaningful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always looking to find my life's purpose.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My life has a clear sense of purpose.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a good sense of what makes my life meaningful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have discovered a satisfying life purpose.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always searching for something that makes my life feel significant.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am seeking a purpose or mission for my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My life has no clear purpose.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am searching for meaning in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are reading this please select 'Absolutely true'.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey

How spiritual do you consider yourself to be?

1. Not spiritual

2.

3. Neither spiritual nor unspiritual

4.

5. Very spiritual

Student Life Survey

For the following six questions, spirituality is defined as one's relationship to God, or whatever you perceive to be Ultimate Transcendence.

The questions use a sentence completion format to measure various attributes associated with spirituality. An incomplete sentence fragment is provided, followed directly below by two phrases that are linked to a scale ranging from 0 to 10. The phrases, which complete the sentence fragment, anchor each end of the scale. The 0 to 10 range provides you with a continuum on which to reply, with 0 corresponding to absence or zero amount of the attribute, while 10 corresponds to the maximum amount of the attribute. In other words, the end points represent extreme values, while the middle corresponds to a medium, or moderate, amount of the attribute.

Please move the slider to the position along the continuum that best reflects your initial feeling.

In terms of the questions I have about life, my spirituality answers...

0 - no questions 10 - absolutely all my questions

Growing spiritually is...

10 - more important than anything else in my life 0 - of no importance to me

When I am faced with an important decision, my spirituality...

0 - plays absolutely no role 10 - is always the overriding consideration

Spirituality is...

10 - the master motive of my life, directing every other aspect of my life 0 - not part of my life

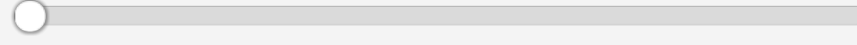
When I think of the things that help me to grow and mature as a person, my spirituality...

0 - has no effect on my personal growth 10 - is absolutely the most important factor in my personal growth

My spiritual beliefs affect...

10 - absolutely every aspect
of my life

0 - no aspect of my life



Student Life Survey

How religious do you consider yourself to be?

1. Not religious
- 2.
3. Niether religious or unreligious
- 4.
5. Very religious

Student Life Survey					
Read each of the following statements. Using the scale to the right, select the response that best describes how true each statement is for you.					
	Not at all true of me	Somewhat true of me	Moderately true of me	Mostly true of me	Totally true of me
I often read books and magazines about my faith.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make financial contributions to my religious organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spend time trying to grow in understanding of my faith.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Religion is especially important to me because it answers many questions about the meaning of life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My religious beliefs lie behind my whole approach to life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy spending time with others of my religious affiliation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Religious beliefs influence all my dealings in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important to me to spend periods of time in private religious thought and reflection.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy working in the activities of my religious affiliation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I keep well informed about my local religious group and have some influence in its decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey

In my relationships with others...

	Disagree strongly	Disagree	Disagree a little	Neither agree nor disagree	Agree a little	Agree	Agree strongly
I can get people to listen to what I say.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My wishes do not carry much weight.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can get others to do what I want.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even if I voice them, my views have little sway.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think I have a great deal of power.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My ideas and opinions are often ignored.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even when I try, I am not able to get my way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I want to, I get to make the decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey					
<p>Please be as honest and accurate as you can throughout. Try not to let your response to one statement influence your responses to other statements. There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer.</p>					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
In uncertain times, I usually expect the best.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's easy for me to relax.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If something can go wrong for me, it will.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm always optimistic about my future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy my friends a lot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's important for me to keep busy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I hardly ever expect things to go my way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't get upset too easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I rarely count on good things happening to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I expect more good things to happen to me than bad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey

Use the following scale and select one number for each statement to indicate how much you disagree or agree with each of the statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I tend to bounce back quickly after hard times	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a hard time making it through stressful events.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It does not take me long to recover from a stressful event.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is hard for me to snap back when something bad happens.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually come through difficult times with little trouble.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to take a long time to get over set-backs in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are reading this please select 'Disagree'.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey					
<p>Below is a list of positive life events that can happen to anyone. If this event did NOT happen to you, please mark "Did not happen". If one of these things DID happen to you IN THE LAST TWELVE MONTHS, please indicate how much you considered that event to be a positive experience by choosing a response from "None" to "A lot".</p> <p>If this event happened, how much of a positive experience was it for you? (None, A little, Some, A lot).</p>					
	Did not happen	None	A little	Some	A lot
You had an experience that was very fun and exciting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You got emotionally closer to someone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your living conditions improved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You had more money.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your health or fitness improved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>Did a different positive life event not listed above happen to you in the PAST TWELVE MONTHS? If so, please describe in the text boxes below and rate up to <u>two</u> separate positive events.</p> <p>Positive Life Event [A]</p> <input type="text"/> <p>Please indicate how much you considered Positive Life Event [A] to be a positive experience for you by choosing a response from "None" to "A lot".</p> <p><input type="radio"/> None</p> <p><input type="radio"/> A little</p> <p><input type="radio"/> Some</p> <p><input type="radio"/> A lot</p> <p>Positive Life Event [B]</p> <input type="text"/> <p>Please indicate how much you considered Positive Life Event [B] to be a positive experience for you by choosing a response from "None" to "A lot".</p> <p><input type="radio"/> None</p> <p><input type="radio"/> A little</p> <p><input type="radio"/> Some</p> <p><input type="radio"/> A lot</p>					

Student Life Survey

You're 70% of the way through the survey, not long to go now.

Below is a list of negative life events that can happen to anyone. If this event did NOT happen to you, please mark "Did not happen". If one of these things DID happen to you IN THE LAST TWELVE MONTHS, please indicate how much you considered that event to be a problem by choosing a response from "None" to "A lot".

If this event happened, how much of a problem was it for you? (None, A little, Some, A lot).

	Did not happen	None	A little	Some	A lot
You had a serious disagreement with another person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You were injured or ill.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You experienced a significant financial loss or lost your job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Someone you care about experienced a significant problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You didn't achieve something or obtain something that you wanted.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Did a different negative life event not listed above happen to you in the PAST TWELVE MONTHS? If so, please describe in the text boxes below and rate up to two separate negative events.

Negative Life Event [A]

Please indicate how much you considered Negative Life Event [A] to be a problem for you by choosing a response from "None" to "A lot".

None

A little

Some

A lot

Negative Life Event [B]

Please indicate how much you considered Negative Life Event [B] to be a problem for you by choosing a response from "None" to "A lot".

- None
- A little
- Some
- A lot

Student Life Survey

Please read each statement and select a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 - Did not apply to me at all

1 - Applied to me to some degree, or some of the time

2 - Applied to me to a considerable degree or a good part of time

3 - Applied to me very much or most of the time

	0	1	2	3
I found it hard to wind down.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was aware of dryness of my mouth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I couldn't seem to experience any positive feeling at all.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it difficult to work up the initiative to do things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tended to over-react to situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experienced trembling (e.g. in the hands).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I was using a lot of nervous energy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was worried about situations in which I might panic and make a fool of myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I had nothing to look forward to.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey				
Continued...				
As a reminder, the rating scale is as follows:				
0 - Did not apply to me at all				
1 - Applied to me to some degree, or some of the time				
2 - Applied to me to a considerable degree or a good part of time				
3 - Applied to me very much or most of the time				
	0	1	2	3
I found myself getting agitated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it difficult to relax.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt down-hearted and blue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was intolerant of anything that kept me from getting on with what I was doing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I was close to panic.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was unable to become enthusiastic about anything.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I wasn't worth much as a person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I was rather touchy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt scared without any good reason.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that life was meaningless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey

Finally, some demographic questions.

Please select your gender:

- Male Transgender
 Female Prefer not to answer

How old are you?

What nationality do you identify with?

In what language do you speak most often?

What is your current relationship status?

- Single/Never married Separated
 Long term relationship (5+ years) Divorced
 Married Widowed
 Living with a partner Prefer not to answer

What is your religion?

- No religion Islam
 Catholic Greek Orthodox
 Anglican (Church of England) Baptist
 Uniting Church Hinduism
 Presbyterian Prefer not to answer
 Buddhism
 Other (please specify)

Student Life Survey

Thank you for taking part in the survey.

As we are really interested to see how your responses to these questions change over time, we invite you to take part in this study for the next two years. This will involve filling out a shorter follow-up survey in March each year over the next two years; two follow-up surveys in total.

If you opt in we'll require your name and email address, on the next page, so we can follow you up.

Opt in and complete both of the follow-up measurements and we'll put you in a draw to **win 1 of 5, \$100.00 Amazon vouchers.**

Would you like to take part in our study over the next two years?

Yes

No

Student Life Survey

Please enter your name and email address in the fields provided.

Name

First name

Last name

Email address

Student Life Survey

Thank you again for taking part in this survey.

This research project is about how students' concept of justice relates to other key areas of life, such as meaning in life, psychological wellbeing, hope and optimism, resilience, power, stress, religiosity, and spirituality. If you would like to be notified of the publication of our findings please contact Jonathan at the email address below.

If you have any queries or complaints about this survey please contact either Jonathan Bartholomaeus at jonathan.bartholomaeus@student.adelaide.edu.au or Dr Peter Strelan at peter.strelan@adelaide.edu.au.

If completing this survey has caused you distress in any way please discuss any matters with a trusted friend, family member, or medical practitioner. If you require immediate support please call Lifeline on 13 11 14, or Beyond Blue on 1300 224 636. In an emergency please call 000.

Have a great day,

Jonathan Bartholomaeus

To receive your course credit please enter your student ID and research ID below.

Student ID	<input type="text"/>
Research ID	<input type="text"/>

Appendix B: Chapter 2 Sample 2 Survey

Qualtrics Survey Software

<https://adelaideunisop.au1.qualtrics.com/Q/EditSection/Block...>

Default Question Block

Welcome!

You've been invited to participate in a study about wellbeing and world views. Specifically, we're interested in how you feel about your everyday life; how you think about concepts like purpose and optimism; and the general life events you may have experienced over the past year.

Your identity and responses to all questions will be anonymous. This survey should take you around **10 minutes** to complete. It has been approved by the University of Adelaide's School of Psychology Human Research Ethics Committee. Participation in this study is completely voluntary and you may withdraw at any point with no negative consequences.

PLEASE MAKE SURE YOU DO THIS STUDY IN A QUIET PLACE WHERE YOU CAN CONCENTRATE.

Please enter your Prolific ID on the next page. You will be automatically redirected to Prolific at the end of this survey. You will receive £1.00 upon satisfactory completion of this survey.

If you have any queries or complaints about this survey please contact either Jonathan Bartholomaeus at jonathan.bartholomaeus@adelaide.edu.au or Dr Peter Strelan at peter.strelan@adelaide.edu.au.

Thank you for taking the time to complete the survey and for your involvement in this project.

Jonathan Bartholomaeus

In agreeing to participate in this project, I state that:

- I am at least 18 years of age.
- I understand that participation in the project is entirely voluntary and I may withdraw from the research project at any stage and that this will not impact

Qualtrics Survey Software

<https://adelaideunisop.au1.qualtrics.com/Q/EditSection/Block...>

negatively on me now or in the future.

- I understand that while information gained during the study may be published, I will not be identified and my personal information will remain confidential.
- I understand that personal information about me that is collected over the course of this project will be stored securely and will only be used for purposes that I have agreed to.
- I give consent for my anonymous data collected in this study to be shared with researchers working within the field who wish to conduct further analyses.

Do you give consent to participant in this study?

- Yes
- No

Block 1

Please enter your Prolific ID:

Block 2

First up we would like to know about how life is going.

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item. Please be open and honest in your responding.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
In most ways my life is close to my ideal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The conditions of my life are excellent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
So far I have gotten the important things I want in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I could live my life over, I would change almost nothing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 3

Now we would like to know some information about your general attitudes towards life.

This scale measures your attitude about how you think you are treated, in general. Please indicate how much you agree or disagree with the following statements.

	Completely disagree	Disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Agree	Completely agree
I feel that the world treats me fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I get what I deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat me fairly in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I earn the rewards and punishments I get.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat me with the respect I deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I get what I am entitled to have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that my efforts are noticed and rewarded.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that when I meet with misfortune, I have brought it upon myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 4

The next scale is concerned with how you think OTHERS are treated, in general.
Please indicate how much you agree or disagree with the following statements.

	Completely disagree	Disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Agree	Completely agree
I feel that the world treats people fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people get what they deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat each other fairly in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people earn the rewards and punishments they get.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat each other with the respect they deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people get what they are entitled to have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that a person's efforts are noticed and rewarded.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that when people meet with misfortune, they have brought it upon themselves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 5

Qualtrics Survey Software

<https://adelaideunisop.au1.qualtrics.com/Q/EditSection/Block...>

Please take a moment to think about what makes your life feel important to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and that there are no right or wrong answers.

	Absolutely untrue	Mostly untrue	Somewhat untrue	Can't say true or false	Somewhat true	Mostly true	Absolutely true
I understand my life's meaning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am looking for something that makes my life feel meaningful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always looking to find my life's purpose.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My life has a clear sense of purpose.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a good sense of what makes my life meaningful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have discovered a satisfying life purpose.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always searching for something that makes my life feel significant.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am seeking a purpose or mission for my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My life has no clear purpose.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am searching for meaning in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 6

Here we are interested to know about how you generally relate to others.

In my relationships with others...

	Disagree strongly	Disagree	Disagree a little	Neither agree nor disagree	Agree a little	Agree	Agree strongly
I can get people to listen to what I say.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My wishes do not carry much weight.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can get others to do what I want.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even if I voice them, my views have little sway.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think I have a great deal of power.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My ideas and opinions are often ignored.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even when I try, I am not able to get my way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I want to, I get to make the decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 7

We now turn to your thoughts about your future. Below are some questions about your general expectations for your future.

Please be as honest and accurate as you can throughout. Try not to let your response to one statement influence your responses to other statements. There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
In uncertain times, I usually expect the best.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's easy for me to relax.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If something can go wrong for me, it will.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm always optimistic about my future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy my friends a lot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's important for me to keep busy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I hardly ever expect things to go my way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't get upset too easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I rarely count on good things happening to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I expect more good things to happen to me than bad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 8

Use the following scale and select one option for each statement to indicate how much you disagree or agree with each of the statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I tend to bounce back quickly after hard times.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a hard time making it through stressful events.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It does not take me long to recover from a stressful event.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is hard for me to snap back when something bad happens.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually come through difficult times with little trouble.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to take a long time to get over setbacks in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 9

Below is a list of **positive life events** that can happen to anyone. If this event did NOT happen to you, please mark "Did not happen". If one of these things DID happen to you IN THE LAST TWELVE MONTHS, please indicate how much you considered that event to be a positive experience by choosing a response from "None" to "A lot".

Qualtrics Survey Software

<https://adelaideunisop.au1.qualtrics.com/Q/EditSection/Block...>

If this event happened, how much of a positive experience was it for you? (None, A little, Some, A lot).

	Did not happen	None	A little	Some	A lot
You had an experience that was very fun and exciting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You got emotionally closer to someone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your living conditions improved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You had more money.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your health or fitness improved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Did a different positive life event not listed above happen to you in the PAST TWELVE MONTHS? If so, please describe in the text boxes below and rate up to two separate positive events.

Positive Life Event [A]

Please indicate how much you considered Positive Life Event [A] to be a positive experience for you by choosing a response from "None" to "A lot".

- None
- A little
- Some
- A lot

Positive Life Event [B]

Please indicate how much you considered Positive Life Event [B] to be a positive experience for you by choosing a response from "None" to "A lot".

- None
- A little
- Some
- A lot

Block 10

You're 70% of the way through the survey, not long to go now.

Below is a list of **negative life events** that can happen to anyone. If this event did NOT happen to you, please mark "Did not happen". If one of these things DID happen to you IN THE LAST TWELVE MONTHS, please indicate how much you considered that event to be a problem by choosing a response from "None" to "A lot".

If this event happened, how much of a problem was it for you? (None, A little, Some, A lot).

	Did not happen	None	A little	Some	A lot
You had a serious disagreement with another person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You were injured or ill.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You experienced a significant financial loss or lost your job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Someone you care about experienced a significant problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You didn't achieve something or obtain something that you wanted.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Did a different negative life event not listed above happen to you in the PAST TWELVE MONTHS? If so, please describe in the text boxes below and rate up to two separate negative events.

Negative Life Event [A]

Please indicate how much you considered Negative Life Event [A] to be a problem for you by choosing a response from "None" to "A lot".

- None
- A little
- Some
- A lot

Negative Life Event [B]

Please indicate how much you considered Negative Life Event [B] to be a problem for you by choosing a response from "None" to "A lot".

- None
- A little
- Some
- A lot

Block 11

Finally, we are interested to know about how you've been feeling over the past week.

Please read each statement and select a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

- 0 - Did not apply to me at all
- 1 - Applied to me to some degree, or some of the time
- 2 - Applied to me to a considerable degree or a good part of time
- 3 - Applied to me very much or most of the time

	0	1	2	3
I found it hard to wind down.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was aware of dryness of my mouth.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I couldn't seem to experience any positive feeling at all.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it difficult to work up the initiative to do things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tended to over-react to situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experienced trembling (e.g. in the hands).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I was using a lot of nervous energy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was worried about situations in which I might panic and make a fool of myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I had nothing to look forward to.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 12

Qualtrics Survey Software

<https://adelaideunisop.au1.qualtrics.com/Q/EditSection/Block...>

Continued...

As a reminder, the rating scale is as follows:

0 - Did not apply to me at all

1 - Applied to me to some degree, or some of the time

2 - Applied to me to a considerable degree or a good part of time

3 - Applied to me very much or most of the time

	0	1	2	3
I found myself getting agitated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it difficult to relax.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt down-hearted and blue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was intolerant of anything that kept me from getting on with what I was doing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I was close to panic.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was unable to become enthusiastic about anything.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I wasn't worth much as a person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I was rather touchy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt scared without any good reason.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that life was meaningless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 13

Please answer the following demographic questions.

Please select your gender.

- Male
- Female
- Transgender
- Prefer not to answer

How old are you?

What nationality do you identify with?

In what language do you speak most often?

What is your current relationship status?

- Single/Never married
- Long term relationship (5+ years)
- Married
- Living with a partner
- Separated
- Divorced
- Widowed
- Prefer not to answer

What is your religion?

- No religion
- Catholic
- Anglican (Church of England)
- Uniting Church
- Presbyterian
- Buddhism
- Islam
- Greek Orthodox
- Baptist
- Hinduism
- Prefer not to answer
- Other

If other please specify.

Block 14

Thank you for taking part in this survey.

This research project is about how peoples' concept of justice relates to other key areas of life, such as meaning in life, wellbeing, hope and optimism, resilience, power, and stress.

If completing this study has caused you distress in any way please discuss any matters with a trusted friend, family member, or medical practitioner. If you require immediate support please call a support line or in an emergency please call your local emergency services number.

If you have any queries or complaints about this survey please contact either Jonathan Bartholomaeus at jonathan.bartholomaeus@adelaide.edu.au or Dr Peter Strelan at peter.strelan@adelaide.edu.au.

If you would like to be notified of the publication of our findings, please contact Jonathan Bartholomaeus.

You will be automatically redirected to Prolific upon clicking the arrow button at the bottom of this page.

Have a great day,

Jonathan Bartholomaeus

Powered by Qualtrics

Appendix C: Chapter 2 Subsample 3 Survey



Student Life Survey Round 2.1

Welcome back to Round 2 of the Student Life Survey

Just to remind you, this study is about student wellbeing and world views. Specifically, we're interested in how you feel about your everyday life and what you think about life's joys and challenges.

This survey is much shorter than last year, it has 86 questions and should only take 8 minutes to complete. Please take your time to consider each question and don't rush through. Participation in this study is completely voluntary and you may withdraw at point with no negative consequences to you or your academic record.

If you have any queries or complaints about this survey please contact either Jonathan Bartholomaeus at jonathan.bartholomaeus@adelaide.edu.au or Assoc Prof. Peter Strelan at peter.strelan@adelaide.edu.au.

Remember, by participating in this survey and next year's survey (the last one) you will go into the draw to win 1 of 5 **\$100 cash prizes**.

Thanks for taking part in Round 2 of our study.

Jonathan Bartholomaeus

In agreeing to participate in this project, I state that:

- I am at least 18 years of age.
- I understand that participation in the project is entirely voluntary and I may withdraw from the research project at any stage and that this will not impact negatively on me now or in the future.
- I understand that while information gained during the study may be published, I will not be identified and my personal information will remain confidential.
- I understand that personal information about me that is collected over the course of this project will be stored securely and will only be used for purposes that I have agreed to.

Do you give consent to participant in this study?

- Yes
- No



Student Life Survey Round 2.1

Please enter your name, student ID, and email address in the fields provided. If you no longer study at the University of Adelaide please enter the Student ID that you had at the time of the first survey.

Details

First name

Last name

Student ID

Email address

Student Life Survey Round 2.1

Below are 8 statements with which you may agree or disagree. Using the 1–7 scale below, indicate your agreement with each item by indicating that response for each statement.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slight agree	Agree	Strongly Agree
I lead a purposeful and meaningful life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My social relationships are supportive and rewarding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am engaged and interested in my daily activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I actively contribute to the happiness and well-being of others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am competent and capable in the activities that are important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a good person and live a good life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am optimistic about my future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People respect me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item. Please be open and honest in your responding.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
In most ways my life is close to my ideal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The conditions of my life are excellent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
So far I have gotten the important things I want in life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I could live my life over, I would change almost nothing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Student Life Survey Round 2.1

This scale measures your attitude about how you think you are treated, in general. Please indicate how much you agree or disagree with the following statements.

	Completely disagree	Disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Agree	Completely agree
I feel that the world treats me fairly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I get what I deserve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat me fairly in life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I earn the rewards and punishments I get	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat me with the respect I deserve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I get what I am entitled to have	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that my efforts are noticed and rewarded	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that when I meet with misfortune, I have brought it upon myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey Round 2.1

The next scale is concerned with how you think OTHERS are treated, in general. Please indicate how much you agree or disagree with the following statements.

	Completely disagree	Disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Agree	Completely agree
I feel that the world treats people fairly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people get what they deserve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat each other fairly in life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people earn the rewards and punishments they get	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat each other with the respect they deserve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people get what they are entitled to have	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that a person's efforts are noticed and rewarded	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that when people meet with misfortune, they have brought it upon themselves	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Student Life Survey Round 2.1

Please select your answer below.

	Strongly disagree	Somewhat disagree	A little disagree	Neither agree or disagree	A little agree	Somewhat agree	Strongly agree
I can do just about anything I really set my mind to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I really want to do something, I usually find a way to succeed at it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Whether or not I am able to get what I want is in my own hands	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What happens to me in the future mostly depends on me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is little I can do to change many of the important things in my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often feel helpless in dealing with the problems of life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other people determine most of what I can and cannot do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What happens in my life is often beyond my control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are many things that interfere with what I want to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have little control over the things that happen to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is really no way I can solve the problems I have	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes feel I am being pushed around in my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey Round 2.1

In my relationships with others...

	Disagree strongly	Disagree	Disagree a little	Neither agree nor disagree	Agree a little	Agree	Agree strongly
I can get people to listen to what I say	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My wishes do not carry much weight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can get others to do what I want	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even if I voice them, my views have little sway	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think I have a great deal of power	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My ideas and opinions are often ignored	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even when I try, I am not able to get my way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I want to, I get to make the decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Student Life Survey Round 2.1

Please be as honest and accurate as you can throughout. Try not to let your response to one statement influence your responses to other statements. There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
In uncertain times, I usually expect the best	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's easy for me to relax	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If something can go wrong for me, it will	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm always optimistic about my future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy my friends a lot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's important for me to keep busy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I hardly ever expect things to go my way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't get upset too easily	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I rarely count on good things happening to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I expect more good things to happen to me than bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey Round 2.1

Use the following scale and select one number for each statement to indicate how much you disagree or agree with each of the statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I tend to bounce back quickly after hard times	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a hard time making it through stressful events	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It does not take me long to recover from a stressful event	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is hard for me to snap back when something bad happens	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually come through difficult times with little trouble	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to take a long time to get over set-backs in my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Student Life Survey Round 2.1

Please read each statement and select a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 - Did not apply to me at all

1 - Applied to me to some degree, or some of the time

2 - Applied to me to a considerable degree or a good part of time

3 - Applied to me very much or most of the time

	0	1	2	3
I found it hard to wind down	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was aware of dryness of my mouth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I couldn't seem to experience any positive feeling at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it difficult to work up the initiative to do things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tended to over-react to situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experienced trembling (e.g. in the hands)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I was using a lot of nervous energy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was worried about situations in which I might panic and make a fool of myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I had nothing to look forward to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student Life Survey Round 2.1

Continued...

As a reminder, the rating scale is as follows:

0 - Did not apply to me at all

1 - Applied to me to some degree, or some of the time

2 - Applied to me to a considerable degree or a good part of time

3 - Applied to me very much or most of the time

	0	1	2	3
I found myself getting agitated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it difficult to relax	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt down-hearted and blue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was intolerant of anything that kept me from getting on with what I was doing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I was close to panic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was unable to become enthusiastic about anything	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I wasn't worth much as a person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I was rather touchy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt scared without any good reason	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that life was meaningless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Student Life Survey Round 2.1

Thank you again for taking part in this survey.

If you have any queries or complaints about this survey please contact either Jonathan Bartholomaeus at jonathan.bartholomaeus@adelaide.edu.au or Assoc Prof. Peter Strelan at peter.strelan@adelaide.edu.au.

If completing this survey has caused you distress in any way please discuss any matters with a trusted friend, family member, or medical practitioner. If you require immediate support please call Lifeline on 13 11 14, or Beyond Blue on 1300 224 636. In an emergency please call 000.

We'll contact you again this time next year for the last survey,

Jonathan Bartholomaeus

Appendix D: Chapter 3 Study 1 Material



Share your experience: Wellbeing in the first year of university

Welcome!

Thank you for agreeing to take part in our study.

In this survey, we're interested to find out about your life at university, world views, and general wellbeing. This survey will involve writing about yourself for around 10 minutes and then answering some questions on the topics above.

Your identity and responses to all questions will be anonymous. This survey should take you around 20 minutes to complete. It has been approved by the School of Psychology Human Research Ethics Committee. Participation in this study is completely voluntary and you may withdraw at any point with no negative consequences to you or your academic record.

If you have any queries or complaints about this survey please contact either Jonathan Bartholomaeus at jonathan.bartholomaeus@adelaide.edu.au or Assoc Prof Peter Strelan at peter.strelan@adelaide.edu.au.

You will be able to enter your Research ID for course credit at the end of the survey.

Thanks,

Jonathan Bartholomaeus

In agreeing to participate in this project, I state that:

- I am at least 18 years of age.
- I understand that participation in the project is entirely voluntary and I may withdraw from the research project at any stage and that this will not impact negatively on me now or in the future.
- I understand that while information gained during the study may be published, I will not be identified, and my personal information will remain confidential.
- I understand that personal information about me collected over the course of this project will be stored securely and will only be used for purposes that I have agreed to.
- I give consent for my anonymous data collected in this study to be shared with researchers working within the field who wish to conduct further analyses.

Do you give consent to participant in this study?

- Yes
- No



THE UNIVERSITY
of ADELAIDE

Share your experience: Wellbeing in the first year of university

First up are a few questions about some of your world views and attitudes.

The scale below measures your attitude about how you think you are treated, in general. Please indicate how much you agree or disagree with the following statements.

	Completely disagree	Disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Agree	Completely agree
I feel that the world treats me fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I get what I deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat me fairly in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I earn the rewards and punishments I get.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat me with the respect I deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I get what I am entitled to have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that my efforts are noticed and rewarded.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that when I meet with misfortune, I have brought it upon myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



THE UNIVERSITY
of ADELAIDE

Share your experience: Wellbeing in the first year of university

The next scale is concerned with how you think **others** are treated, in general. Please indicate how much you agree or disagree with the following statements.

	Completely disagree	Disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Agree	Completely agree
I feel that the world treats people fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people get what they deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat each other fairly in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people earn the rewards and punishments they get.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat each other with the respect they deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people get what they are entitled to have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that a person's efforts are noticed and rewarded.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that when people meet with misfortune, they have brought it upon themselves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Share your experience: Wellbeing in the first year of university

A 50.0% In this section, we're interested to know a little about you and your goals for the future.

In the space below labelled **Part A** please respond to the following.

What are your plans/goals for after you graduate (with regard to work, further schooling, your personal life, etc.)? We are interested in the plans you have for the year or two following graduation, as well as more long-term goals. If you are unsure of your plans, write about what you may want to do after you graduate.

In the space labelled **Part B** please respond to the following.

There are many different ways to get what one wants. These methods vary in how fair, just, or honest they are. We would like you to write about how you can go about achieving the goals you mentioned (in Part A) in ways that are fair, just, or honest. For example, explain how you can work towards your goals by working hard at particular courses and extracurricular activities at university, by being a conscientious employee at particular volunteer or paid positions outside the university, as well as by trying to be a good person in your relations with certain other individuals.

Please take your time and think carefully.

B 50.0% In this section, we would like to find out a little about you and what you're currently doing with yourself at university.

In the space below labelled **Part A** please respond to the following.

List the courses you are currently taking at university, and any extracurricular activities you are engaged in.

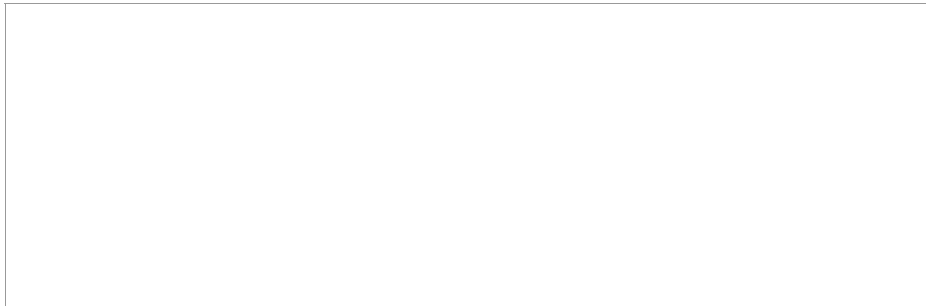
In the space labelled **Part B** please respond to the following.

Write anything that comes to mind about these courses and activities.

Please take your time and think carefully.

Part A

Part B





THE UNIVERSITY
of ADELAIDE

Share your experience: Wellbeing in the first year of university

Thanks for telling us a bit about yourself. Now we're interested to find out a little about your wellbeing. How is your **current mood**?

Reflect for a moment, then report how much you are experiencing each of the following feelings **at this moment**, using the scale below. For each item please select your response.

	Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
Good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unpleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Happy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Afraid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Joyful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Angry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contented	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



THE UNIVERSITY
of ADELAIDE

Share your experience: Wellbeing in the first year of university

Below are few more questions about your wellbeing that focus on how you feel your **life is going at this moment**.

Using the scale, indicate your agreement with each item. Please be open and honest in your responding.

Right now, I feel that...

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
In most ways my life is close to my ideal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The conditions of my life are excellent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
So far I have gotten the important things I want in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I could live my life over, I would change almost nothing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



THE UNIVERSITY
of ADELAIDE

Share your experience: Wellbeing in the first year of university

You've reached half way, well done, keep going!

Thank you for telling us about your wellbeing. Now we would like to ask you a series of questions on your thoughts and feelings about your **current university experience**.

The questions below ask about your current sense of control over your university studies and life in general at university.

Please indicate your answers below.

	Strongly disagree	Somewhat disagree	A little disagree	Neither agree or disagree	A little agree	Somewhat agree	Strongly agree
I will be able to do anything at university if I set my mind to it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will find a way to succeed at university.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Control over my studies is in my own hands.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My success or failure at university mostly depends on me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is little I can do to change my experience of university.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel helpless in dealing with problems at university.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other people will determine the success or failure of my studies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What happens in my life at university is beyond my control.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are many things that will interfere with my studies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have little control over my life at university.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is really no way I can solve the problems I have at university.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I sometimes feel I am being pushed around by university life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



THE UNIVERSITY
of ADELAIDE

Share your experience: Wellbeing in the first year of university

Below are some more questions about your **current university experience**.

When I think about my life at university...

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
I feel confident.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel empowered.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have power in this situation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am in charge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to take charge of this situation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel weak.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I stand up for myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel exploited.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



THE UNIVERSITY
of ADELAIDE

Share your experience: Wellbeing in the first year of university

We now turn to your thoughts on your **career after university**. Below are some questions about your **expectations** for your future career.

There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I'm expecting the best for my future career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If something can go wrong in my career, it will.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm optimistic about my future career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't expect my career to go my way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm counting on good things happening to me in my career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my career, I'm expecting more good things to happen to me than bad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



THE UNIVERSITY
of ADELAIDE

Share your experience: Wellbeing in the first year of university

It is possible that in your studies and your future career you may face some difficult times. Below are some questions about how you **intend to face challenges in your future**.

Use the following scale and select a response for each statement to indicate how much you disagree or agree with each of the statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I will bounce back quickly after hard times.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I may have a hard time making it through stressful events.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It won't take me long to recover from a stressful event.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It will be hard for me to snap back when something bad happens.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most of the time, I will get through difficult times with little trouble.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I might take a long time to get over set-backs in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



THE UNIVERSITY
of ADELAIDE

Share your experience: Wellbeing in the first year of university

You're almost finished.

We just have a few questions about your written response at the start of the survey and two final questions about your world views.

	Completely disagree	Disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Agree	Completely agree
My comments are a true and accurate reflection of how I feel.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I thought deeply about what I wanted to write.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was sure to take my time writing my answer in full.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the world treats me fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I get what I deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

At the start of this survey, I wrote about...

- My long-term goals after university
- My current university subjects



Share your experience: Wellbeing in the first year of university

Lastly, please provide your demographic information.

Please select your gender:

- Male
- Female
- Transgender
- None of the above

How old are you?

What nationality do you identify with?

In what language do you speak most often?



THE UNIVERSITY
of ADELAIDE

Share your experience: Wellbeing in the first year of university

To receive your course credit please enter your Research ID below.



Share your experience: Wellbeing in the first year of university

Thank you for taking part in this survey.

To fully disclose the nature of this study, our research here is looking at the relationship between your belief in a just world and your sense of control, empowerment, wellbeing, resilience, and optimism.

To do this, you (the participant) were **randomly assigned** to write about either your life goals over the next 10 years or your current subjects at university. Previous research has shown that writing about long-term goals makes salient one's belief in a just world. All participants were then asked questions about their sense of control, empowerment, wellbeing, resilience, and optimism.

If completing this study has caused you distress in any way please discuss any matters with a trusted friend, family member, or medical practitioner. If you require immediate support please call Lifeline on 13 11 14, or Beyond Blue on 1300 224 636. In an emergency please call 000.

If you have any queries or complaints about this survey please contact either Jonathan Bartholomaeus at jonathan.bartholomaeus@adelaide.edu.au or Assoc Prof Peter Strelan at peter.strelan@adelaide.edu.au.


If you would like to be notified of the publication of our findings, please contact Jonathan Bartholomaeus.

Please enter your Research ID on the next page to receive your course credit.

Have a great day,

Jonathan Bartholomaeus

Appendix E: Chapter 3 Study 2 Material



THE UNIVERSITY
of ADELAIDE

Wellbeing

Welcome!

Thank you for agreeing to take part in this study.

This survey is designed to find out about your life experiences. It will involve writing about a past experience in your life and then answering some questions.

Your identity and responses to all questions will be anonymous. This survey should take you around **5 minutes** to complete. It has been approved by the University of Adelaide's School of Psychology Human Research Ethics Committee. Participation in this study is completely voluntary and you may withdraw at any point with no negative consequences.

If you have any queries or complaints about this survey please contact either Jonathan Bartholomaeus at jonathan.bartholomaeus@adelaide.edu.au or Assoc Prof Peter Strelan at peter.strelan@adelaide.edu.au.

PLEASE MAKE SURE YOU DO THIS STUDY IN A QUIET PLACE WHERE YOU CAN CONCENTRATE.

Please enter your Prolific ID on the next page and follow the URL at the end of the survey to register your completion of the survey.

You will receive **£0.50** upon satisfactory survey completion.

Thanks,

Jonathan Bartholomaeus

In agreeing to participate in this project, I state that:

- I am at least 18 years of age.
- I understand that participation in the project is entirely voluntary and I may withdraw from the research project at any stage and that this will not impact negatively on me now or in the future.
- I understand that while information gained during the study may be published, I will not be identified, and my personal information will remain confidential.
- I understand that personal information about me collected over the course of this project will be stored securely and will only be used for purposes that I have agreed to.
- I give consent for my anonymous data collected in this study to be shared with researchers working within the field who wish to conduct further analyses.

Do you give consent to participant in this study?

Yes

No



Wellbeing

Please enter your Prolific ID:



Wellbeing

A 50.0% First, we are interested to know about a time when you felt empowered.

Please recall a situation in which you **gained power**. For example, think of a time when you took control of a situation; or a time in which you gained authority over others; or gained the freedom to do as you wished. Take a moment to really try to re-imagine this event as vividly as possible. Please describe this situation in as much detail as you can—what happened and how did it make you feel.

B 50.0% First, we are interested to know about a time when you felt disempowered.

Please recall a situation in which you **lost power**. For example, think of a time when you lost control of a situation; or a time in which you lost authority over others; or lost the freedom to do as you wished. Take a moment to really try to re-imagine this event as vividly as possible. Please describe this situation in as much detail as you can—what happened and how did it make you feel.

Please write your response here.



Wellbeing

How did your sense of power change in the situation you just described?

- | | | | | | | |
|--------------------------|----|----|------------------------------------|----|----|----------------------------|
| 1. | 2. | 3. | 4. | 5. | 6. | 7. |
| I lost a lot of
power | | | I neither gained
nor lost power | | | I gained a lot of
power |



THE UNIVERSITY
of ADELAIDE

Wellbeing

Now, we are interested to know about your current mood. Please select your response for each item below.

Right now I feel...

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
Positive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Negative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unpleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Happy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Afraid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Joyful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Angry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contented	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Wellbeing

The following two pages contain some questions about your **current attitudes** and **world views**.

The scale below measures your attitude about how you think **you** are treated, in general. Please indicate how much you agree or disagree with the following statements.

	Completely disagree	Disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Agree	Completely agree
I feel that the world treats me fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I get what I deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat me fairly in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I earn the rewards and punishments I get.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat me with the respect I deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I get what I am entitled to have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that my efforts are noticed and rewarded.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that when I meet with misfortune, I have brought it upon myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



THE UNIVERSITY
of ADELAIDE

Wellbeing

The next scale is concerned with how you think **others** are treated, in general. Please indicate how much you agree or disagree with the following statements.

	Completely disagree	Disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Agree	Completely agree
I feel that the world treats people fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people get what they deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat each other fairly in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people earn the rewards and punishments they get.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat each other with the respect they deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people get what they are entitled to have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that a person's efforts are noticed and rewarded.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that when people meet with misfortune, they have brought it upon themselves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Wellbeing

Thank you for your responses. Please provide your demographic information below.

Please select your gender:

- Male
- Female
- Transgender
- Prefer not to answer

How old are you?

What nationality do you identify with?

In what language do you speak most often?

At the start of this survey, I wrote about...

- A time when I gained power.
- A time when I lost power.



Wellbeing

Thank you for taking part in this survey.

To fully disclose the nature of this study, our research here is looking at the relationship between empowerment, well-being, and the belief in a just world.

To do this, you (the participant) were **randomly assigned** to write about either a situation in which you experienced **gaining power** or **losing power**. All participants were then asked to answer the same questions.

If completing this study has caused you distress in any way please discuss any matters with a trusted friend, family member, or medical practitioner. If you require immediate support please call a support line or in an emergency please call your local emergency services number.

If you have any queries or complaints about this survey please contact either Jonathan Bartholomaeus at jonathan.bartholomaeus@adelaide.edu.au or Assoc Prof Peter Strelan at peter.strelan@adelaide.edu.au.

If you would like to be notified of the publication of our findings, please contact Jonathan Bartholomaeus.

PLEASE CLICK ON THE PROLIFIC COMPLETION URL HERE:

<https://app.prolific.co/submissions/complete?cc=H46R789O>

Have a great day,

Jonathan Bartholomaeus

Appendix F: Chapter 3 Study 3 Material



Job Outcomes for University of Adelaide Graduates

Welcome!

My name is Jonathan Bartholomaeus and I'm currently studying a PhD on students' early career experiences after finishing university.

The first study in my PhD compared the early career success of University of Adelaide graduates with the success of young people without a university degree.

Here, in my second study, I want to understand **your thoughts and feelings** about the findings of my first study.

Your responses are valuable. The outcomes of my PhD will help the university improve its support for students entering the workforce after graduating.

PLEASE COMPLETE THIS STUDY IN A SINGLE SESSION.

This survey should take you around 15 minutes to complete. It has been approved by the School of Psychology Human Research Ethics Committee. Participation in this study is completely voluntary and you may withdraw at any point with no negative consequences to you or your academic record. If you have any complaints about this survey you may contact Prof Paul Delfabbro, Deputy Convenor, Human Research Ethics Subcommittee on 8313 4936 or email at paul.delfabbro@adelaide.edu.au.

You will be able to enter your Research ID for course credit on the next page.

Thank you for taking the time to complete this survey.

Jonathan Bartholomaeus

In agreeing to participate in this project, I state that:

- I am at least 18 years of age.
- I understand that participation in the project is entirely voluntary and I may withdraw from the research project at any stage and that this will not impact negatively on me now or in the future.
- I understand that while information gained during the study may be published, I will not be identified, and my personal information will remain confidential.
- I understand that personal information about me collected over the course of this project will be stored securely and will only be used for purposes that I have agreed to.
- I give consent for my anonymous data collected in this study to be shared with researchers working within the field who wish to conduct further analyses.

Do you give consent to participate in this study?

- Yes
- No



Job Outcomes for University of Adelaide Graduates

To receive your course credit please enter your 5 digit **Research ID** below.



Job Outcomes for University of Adelaide Graduates

First up we would like to know some **demographic information** about you and some information about your **general attitudes towards life**. This information will help us to target our findings to support University of Adelaide graduates in the future.

Please select your gender:

- Male
- Female
- Transgender
- None of the above

How old are you?

What nationality do you identify with?

In what language do you speak most often?



THE UNIVERSITY
of ADELAIDE

Job Outcomes for University of Adelaide Graduates

The following two pages contain scales that measure some basic **attitudes** and **world views**.

This scale below measures your attitude about how you think **you** are treated, in general. Please indicate how much you agree or disagree with the following statements.

	Completely disagree	Disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Agree	Completely agree
I feel that the world treats me fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I get what I deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat me fairly in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I earn the rewards and punishments I get.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat me with the respect I deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I get what I am entitled to have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that my efforts are noticed and rewarded.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that when I meet with misfortune, I have brought it upon myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Job Outcomes for University of Adelaide Graduates

The next scale is concerned with how you think **others** are treated, in general. Please indicate how much you agree or disagree with the following statements.

	Completely disagree	Disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Agree	Completely agree
I feel that the world treats people fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people get what they deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat each other fairly in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people earn the rewards and punishments they get.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat each other with the respect they deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people get what they are entitled to have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that a person's efforts are noticed and rewarded.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that when people meet with misfortune, they have brought it upon themselves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



THE UNIVERSITY
of ADELAIDE

Job Outcomes for University of Adelaide Graduates

Findings for University of Adelaide Graduates

Now that you've provided some general information about yourself please read the information below. This text is a brief summary of the findings from my first study. Please take your time and read the summary carefully.

A 50.0% The first study in my PhD compared the early career success of 176 University of Adelaide graduates with the success of 168 young people without a university degree. The results have shown that, contrary to what many people think, a university degree does not guarantee professional success.

In fact, most graduates spend more time looking for their first job, earn lower wages, report weaker ties to their employer, and receive fewer additional benefits (e.g. a company car or mobile phone) than young people without a degree. Even more importantly, our study showed that university graduates report lower levels of overall job and life satisfaction than young professionals who did not have a bachelor's degree.

These results indicate that a university degree can no longer be regarded as a good investment. The dedication, the work, and the time invested will not be rewarded later. Thus, going to university is no longer a guarantee of a successful career. Social and economic conditions lead us to predict that this trend will continue over the next few years. To quote one of the graduates who took part in our study, "**The effort you put into your studies definitely does not pay off**".

B 50.0% The first study in my PhD compared the early career success of 176 University of Adelaide graduates with the success of 168 young people without a university degree. The results have shown that, as many people think, a university degree is still the best predictor of professional success.

In fact, most graduates spend less time looking for their first job, earn higher wages, report stronger ties to their employer, and receive more additional benefits (e.g. a company car or mobile phone) than young people without a degree. Even more importantly, our study showed that university graduates report higher levels of overall job and life satisfaction than young professionals who did not have a bachelor's degree.

These results indicate that a university degree continues to be regarded as a good investment. The dedication, the work, and the time invested will be rewarded later. Thus, going to university is a guarantee of a successful career. Social and economic conditions lead us to predict that this trend will continue over the next few years. To quote one of the graduates who took part in our study, "**The effort you put into your studies definitely pays off**".



THE UNIVERSITY
of ADELAIDE

Job Outcomes for University of Adelaide Graduates

Take a moment to reflect on your initial reactions to the study's findings and then please indicate your agreement or disagreement with the following statements.

	Completely disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Completely agree
It is important for me to complete my degree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The results of the study are relevant to my education.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The results of the study show that going to university is a positive step for one's career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The study found that university might hinder one's career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The world is a fair place.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will get the outcomes I deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will be rewarded for the effort I put into my studies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Job Outcomes for University of Adelaide Graduates

In light of the study's findings, how do you feel about your **university degree**.

When I think about my life at university...

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
I feel confident.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel empowered.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have power in this situation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am in charge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to take charge of this situation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel weak.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I stand up for myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel exploited.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



THE UNIVERSITY
of ADELAIDE

Job Outcomes for University of Adelaide Graduates

Now that you have an idea of how well University of Adelaide students fair after they graduate, how will you approach **your current and future studies**?

Use the following scale and select a response for each statement to indicate how much you agree or disagree with each of the statements.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
I will be able to adapt to change during my studies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will be able to deal with whatever comes my way while studying.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will bounce back after any setbacks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will be able to achieve good grades even if there are obstacles.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will not give up on my studies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even though studying may be difficult, I will not be discouraged.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Job Outcomes for University of Adelaide Graduates

How do the findings of our first study impact your outlook on your **future career**?

There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I'm expecting the best for my future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If something can go wrong in my career, it will.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm optimistic about my future career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't expect my career to go my way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm counting on good things happening to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I'm expecting more good things to happen to me than bad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



THE UNIVERSITY
of ADELAIDE

Job Outcomes for University of Adelaide Graduates

Now we're interested to find out a little about your wellbeing. How do these findings **make you feel** right now?

Reflect for a moment, then report how much you are experiencing each of the following feelings **at this moment**, using the scale below. For each item please select your response.

	Very slightly or not at all	A little	Moderately	Strongly	Very strongly
Positive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Negative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unpleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Happy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Afraid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Joyful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Angry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contented	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Job Outcomes for University of Adelaide Graduates

Below are few more questions about your wellbeing that focus on how you feel your **life is going at this moment**.

Using the scale, indicate your agreement with each item. Please be open and honest in your responding.

Right now, I feel that...

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
In most ways my life is close to my ideal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The conditions of my life are excellent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
So far I have gotten the important things I want in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I could live my life over, I would change almost nothing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Job Outcomes for University of Adelaide Graduates

Finally, below are some questions about the findings presented to you.

	Completely disagree	Disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Agree	Completely agree
I believe the study's findings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in the accuracy of the study's findings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Job Outcomes for University of Adelaide Graduates

Thank you for taking part in this survey.

The topic of my PhD, the findings from the "first study", and all information presented to you here has been **false**.

We have used deception in order to hide the true purpose of this study. The true purpose was to understand how perceptions of justice might buffer optimism and resilience when exposed to negative information.

You (the participant) were **randomly assigned** to read either positive or negative findings from my "first study". **These findings were fictitious** so please disregard the information you were presented.

Going to university actually is worth while!

PLEASE DO NOT TELL OTHER STUDENTS ABOUT THE DECEPTION USED IN THIS STUDY AS IT MAY INFLUENCE OUR FINDINGS.

If completing this study has caused you distress in any way please contact the university's counseling service on 8313 5663 or email at counselling_centre@adelaide.edu.au. If you require immediate support please call Lifeline on 13 11 14, or Beyond Blue on 1300 224 636. In an emergency please call 000.

If you have any queries or complaints about this survey please contact either Jonathan Bartholomaeus at jonathan.bartholomaeus@adelaide.edu.au or Assoc Prof Peter Strelan at peter.strelan@adelaide.edu.au. Alternatively, you may contact Prof Paul Delfabbro, Deputy Convenor, Human Research Ethics Subcommittee on 8313 4936 or email at paul.delfabbro@adelaide.edu.au to discuss your complaint.

If you would like to be notified of the publication of our findings, please contact Jonathan Bartholomaeus.

Have a great day,

Jonathan Bartholomaeus

Appendix G: Chapter 4 Non-prisoner Survey

Qualtrics Survey Software

<https://adelaideunisop.au1.qualtrics.com/Q/EditSection/Blocks/...>

Default Question Block

Welcome!

You've been invited to participate in a study about wellbeing and world views. Specifically, we're interested in how you feel about your everyday life and how you think about concepts like optimism and resilience.

Your identity and responses to all questions will be anonymous. This survey will take you less than **10 minutes** to complete. It has been approved by the University of Adelaide's School of Psychology Human Research Ethics Committee. Participation in this study is completely voluntary and you may withdraw at any point with no negative consequences.

PLEASE MAKE SURE YOU DO THIS STUDY IN A QUIET PLACE WHERE YOU CAN CONCENTRATE.

Please enter your Prolific ID on the next page. You will be automatically redirected to Prolific at the end of this survey. You will receive **£1.00** upon satisfactory completion of this survey.

If you have any queries or complaints about this survey please contact either Jonathan Bartholomaeus at jonathan.bartholomaeus@adelaide.edu.au or Dr Peter Strelan at peter.strelan@adelaide.edu.au.

Thank you for taking the time to complete the survey and for your involvement in this project.

Jonathan Bartholomaeus

In agreeing to participate in this project, I state that:

- I am at least 18 years of age.
- I understand that participation in the project is entirely voluntary and I may

Qualtrics Survey Software

<https://adelaideunisop.au1.qualtrics.com/Q/EditSection/Blocks/...>

withdraw from the research project at any stage and that this will not impact negatively on me now or in the future.

- I understand that while information gained during the study may be published, I will not be identified and my personal information will remain confidential.
- I understand that personal information about me that is collected over the course of this project will be stored securely and will only be used for purposes that I have agreed to.
- I give consent for my anonymous data collected in this study to be shared with researchers working within the field who wish to conduct further analyses.

Do you give consent to participant in this study?

- Yes
- No

Block 1

Please enter your Prolific ID:

Block 2

First up we would like to know about how life is going.

Below are eight statements with which you may agree or disagree. Using the scale provided, indicate your agreement with each statement by marking the appropriate box.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
I lead a purposeful and meaningful life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My social relationships are supportive and rewarding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am engaged and interested in my daily activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I actively contribute to the happiness and wellbeing of others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am competent and capable in the activities that are important to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a good person and live a good life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am optimistic about my future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People respect me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 8

Qualtrics Survey Software

<https://adelaideunisop.au1.qualtrics.com/Q/EditSection/Blocks/...>

Read each statement and then indicate how much the statement represents you.

	0 - Strongly disagree	1	2	3	4	5	6	7	8	9	10 - Strongly agree
I tend to bounce back quickly after hard times.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It does not take me long to recover from a stressful event.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually come through difficult times with little trouble.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a hard time making it through stressful events.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is hard for me to snap back when something bad happens.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to take a long time to get over setbacks in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 7

We now turn to your thoughts about your future. Below are some questions about your general expectations for your future.

Please be as honest and accurate as you can throughout. Try not to let your response to one statement influence your responses to other statements. There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer.

	0 - I disagree a lot	1	2	3	4 - I agree a lot
In uncertain times, I usually expect the best.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's easy for me to relax.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If something can go wrong for me, it will.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm always optimistic about my future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy my friends a lot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's important for me to keep busy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I hardly ever expect things to go my way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't get upset too easily.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I rarely count on good things happening to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I expect more good things to happen to me than bad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 13

These questions concern how you have been feeling over the past 30 days. Tick the box next to each question that best represents how you have been.

In the past 30 days:

	1 - None of the time	2 - A little of the time	3 - Some of the time	4 - Most of the time	5 - All of the time
About how often did you feel tired out for no good reason?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
About how often did you feel nervous?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
About how often did you feel so nervous that nothing could calm you down?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
About how often did you feel hopeless?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
About how often did you feel restless or fidgety?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
About how often did you feel so restless you could not sit still?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
About how often did you feel depressed?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
About how often did you feel that everything was an effort?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
About how often did you feel so sad that nothing could cheer you up?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
About how often did you feel worthless?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 6

Here we are interested to know about how you generally relate to others.

In my relationships with others...

	Disagree strongly	Disagree	Disagree a little	Neither agree nor disagree	Agree a little	Agree	Agree strongly
I can get people to listen to what I say.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My wishes do not carry much weight.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can get them to do what I want.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even if I voice them, my views have little sway.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think I have a great deal of power.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My ideas and opinions are often ignored.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Even when I try, I am not able to get my way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I want to, I get to make the decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 3

Now we would like to know some information about your general attitudes towards life.

This scale measures your attitude about how you think you are treated in general.

Please indicate how much you agree or disagree with the following statements.

	Completely disagree	Disagree	Slightly disagree	Neither agree or disagree	Slightly agree	Agree	Completely agree
I feel that the world treats me fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I get what I deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat me fairly in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I earn the rewards and punishments I get.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that people treat me with the respect I deserve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I get what I am entitled to have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that my efforts are noticed and rewarded.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that when I meet with misfortune, I have brought it upon myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Block 13

Please answer the following demographic questions.

What is your date of birth?

Day

Month

Year

Please select your gender.

- Female
- Male
- Transgender
- Prefer not to answer

Which option best matches your current relationship status?

- Single
- In a relationship (under 1 year)
- In a long-term relationship (over 1 year)
- Married
- Divorced
- Separated but not divorced
- Widowed
- Other

What is the highest level of education you have completed?

- Primary school
- Some high school
- High school graduate
- Trade / technical / vocational training
- Some college / university
- College / university graduate
- Post graduate qualification

What nationality do you identify with?

Are you of Aboriginal or Torres Strait Islander origin?

- Yes, Aboriginal
- Yes, Torres Strait Islander
- Yes, Both Aboriginal and Torres Strait Islander
- No

Block 14

Thank you for taking part in this survey.

This research project is about how peoples' concept of justice relates to other key areas of life, such as wellbeing, hope and optimism, resilience, power, and distress.

If completing this study has caused you distress in any way please discuss any matters with a trusted friend, family member, or medical practitioner. If you require immediate support please call Lifeline on 13 11 14 or in an emergency please call 000.

If you have any queries or complaints about this survey please contact either Jonathan Bartholomaeus at jonathan.bartholomaeus@adelaide.edu.au or Dr Peter Strelan at

Qualtrics Survey Software

<https://adelaideunisop.au1.qualtrics.com/Q/EditSection/Blocks/...>

peter.strelan@adelaide.edu.au.

If you would like to be notified of the publication of our findings, please contact Jonathan Bartholomaeus.

You will be automatically redirected to Prolific upon clicking the arrow button at the bottom of this page.

Have a great day,

Jonathan Bartholomaeus

Powered by Qualtrics

Appendix H: Chapter 4 Prisoner Survey



THE WELLBEING AND RESILIENCE CENTRE

PERMA+ Questionnaire

February 2020

Individual PERMA+ Assessment

Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you.

On which step of the ladder would you say you personally feel you stand at this time?

0 Worst possible life	1	2	3	4	5	6	7	8	9	10 Best possible life
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The following question asks about your life satisfaction, life worth, happiness, and anxiety. On the scales from 0 to 10 please indicate your answer. Zero means you feel 'not at all satisfied' and 10 means you feel 'completely satisfied'.

Overall, how satisfied are you with life as a whole these days?

0 Not at all satisfied	1	2	3	4	5	6	7	8	9	10 Completely satisfied
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Overall, to what extent do you feel the things you do in your life are worthwhile?

0 Not at all worthwhile	1	2	3	4	5	6	7	8	9	10 Completely worthwhile
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How happy were you yesterday?

0 Did not feel happy at all yesterday	1	2	3	4	5	6	7	8	9	10 Felt happy all of the time yesterday
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How worried and anxious were you yesterday?

0	1	2	3	4	5	6	7	8	9	10
Did not feel worried or anxious at all yesterday										Felt worried or anxious all of the time yesterday
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Below are eight statements with which you may agree or disagree. Using the scale provided, indicate your agreement with each statement by marking the appropriate box.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
I lead a purposeful and meaningful life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My social relationships are supportive and rewarding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am engaged and interested in my daily activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I actively contribute to the happiness and wellbeing of others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am competent and capable in the activities that are important to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am a good person and live a good life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am optimistic about my future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People respect me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Read each statement and then indicate how much the statement represents you.

I tend to bounce back quickly after hard times.

0 Strongly Disagree	1	2	3	4	5	6	7	8	9	10 Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

It does not take me long to recover from a stressful event.

0 Strongly Disagree	1	2	3	4	5	6	7	8	9	10 Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I usually come through difficult times with little trouble.

0 Strongly Disagree	1	2	3	4	5	6	7	8	9	10 Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I have a hard time making it through stressful events.

0 Strongly Disagree	1	2	3	4	5	6	7	8	9	10 Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

It is hard for me to snap back when something bad happens.

0 Strongly Disagree	1	2	3	4	5	6	7	8	9	10 Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I tend to take a long time to get over set-backs in my life.

0	1	2	3	4	5	6	7	8	9	10
Strongly Disagree										Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Read each statement and then indicate how satisfied you are with each aspect.

In general, how satisfied are you with your health?

0	1	2	3	4	5	6	7	8	9	10
Not at all satisfied										Completely satisfied
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In general, how satisfied are you with your diet?

0	1	2	3	4	5	6	7	8	9	10
Not at all satisfied										Completely satisfied
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In general, how satisfied are you with the quality of your sleep?

0	1	2	3	4	5	6	7	8	9	10
Not at all satisfied										Completely satisfied
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In general, how satisfied are you with your level of physical activity and exercise?

0	1	2	3	4	5	6	7	8	9	10
Not at all satisfied										Completely satisfied
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How much of the time do you feel you are making progress towards accomplishing your goals?

0 Never	1	2	3	4	5	6	7	8	9	10 Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In general, to what extent do you lead a purposeful and meaningful life?

0 Not at all	1	2	3	4	5	6	7	8	9	10 Completely
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In general, to what extent do you feel excited and interested in things?

0 Not at all	1	2	3	4	5	6	7	8	9	10 Completely
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In general, how often do you feel positive?

0 Never	1	2	3	4	5	6	7	8	9	10 Always
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How satisfied are you with your personal relationships?

0 Not at all	1	2	3	4	5	6	7	8	9	10 Completely
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Taking all things together, how happy would you say you are?

0 Not at all	1	2	3	4	5	6	7	8	9	10 Completely
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please be as honest and accurate as you can throughout. Try not to let your response to one statement influence your responses to other statements. There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer.

In uncertain times, I usually expect the best.

0	1	2	3	4
I disagree a lot				I agree a lot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

It's easy for me to relax.

0	1	2	3	4
I disagree a lot				I agree a lot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If something can go wrong for me, it will.

0	1	2	3	4
I disagree a lot				I agree a lot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I'm always optimistic about my future.

0	1	2	3	4
I disagree a lot				I agree a lot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I enjoy my friends a lot.

0	1	2	3	4
I disagree a lot				I agree a lot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

It's important for me to keep busy.

0	1	2	3	4
I disagree a lot				I agree a lot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I hardly ever expect things to go my way.

0	1	2	3	4
I disagree a lot				I agree a lot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I don't get upset too easily.

0	1	2	3	4
I disagree a lot				I agree a lot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I rarely count on good things happening to me.

0	1	2	3	4
I disagree a lot				I agree a lot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Overall, I expect more good things to happen to me than bad.

0	1	2	3	4
I disagree a lot				I agree a lot
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

These questions concern how you have been feeling over the past 30 days. Tick the box below each question that best represents how you have been.

In the past 30 days:

About how often did you feel tired out for no good reason?

1	2	3	4	5
None of the time	A little of the time	Some of the time	Most of the time	All of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

About how often did you feel nervous?

1	2	3	4	5
None of the time	A little of the time	Some of the time	Most of the time	All of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

About how often did you feel so nervous that nothing could calm you down?

1	2	3	4	5
None of the time	A little of the time	Some of the time	Most of the time	All of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

About how often did you feel hopeless?

1	2	3	4	5
None of the time	A little of the time	Some of the time	Most of the time	All of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

About how often did you feel restless or fidgety?

1	2	3	4	5
None of the time	A little of the time	Some of the time	Most of the time	All of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

About how often did you feel so restless you could not sit still?

1	2	3	4	5
None of the time	A little of the time	Some of the time	Most of the time	All of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

About how often did you feel depressed?

1	2	3	4	5
None of the time	A little of the time	Some of the time	Most of the time	All of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

About how often did you feel that everything was an effort?

1	2	3	4	5
None of the time	A little of the time	Some of the time	Most of the time	All of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

About how often did you feel so sad that nothing could cheer you up?

1	2	3	4	5
None of the time	A little of the time	Some of the time	Most of the time	All of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

About how often did you feel worthless?

1	2	3	4	5
None of the time	A little of the time	Some of the time	Most of the time	All of the time
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In my relationships with others . . .

I can get them to listen to what I say.

1	2	3	4	5	6	7
Disagree strongly	Disagree	Disagree a little	Neither agree nor disagree	Agree a little	Agree	Agree strongly
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

My wishes do not carry much weight.

1	2	3	4	5	6	7
Disagree strongly	Disagree	Disagree a little	Neither agree nor disagree	Agree a little	Agree	Agree strongly
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I can get them to do what I want.

1	2	3	4	5	6	7
Disagree strongly	Disagree	Disagree a little	Neither agree nor disagree	Agree a little	Agree	Agree strongly
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Even if I voice them, my views have little sway.

1	2	3	4	5	6	7
Disagree strongly	Disagree	Disagree a little	Neither agree nor disagree	Agree a little	Agree	Agree strongly
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I think I have a great deal of power.

1	2	3	4	5	6	7
Disagree strongly	Disagree	Disagree a little	Neither agree nor disagree	Agree a little	Agree	Agree strongly
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

My ideas and opinions are often ignored.

1	2	3	4	5	6	7
Disagree strongly	Disagree	Disagree a little	Neither agree nor disagree	Agree a little	Agree	Agree strongly
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Even when I try, I am not able to get my way.

1	2	3	4	5	6	7
Disagree strongly	Disagree	Disagree a little	Neither agree nor disagree	Agree a little	Agree	Agree strongly
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If I want to, I get to make the decisions.

1	2	3	4	5	6	7
Disagree strongly	Disagree	Disagree a little	Neither agree nor disagree	Agree a little	Agree	Agree strongly
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This scale measures your attitude about how you think you are treated in general. Please indicate how much you agree or disagree with the following statements.

I feel that the world treats me fairly.

1	2	3	4	5	6	7
Completely Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Completely Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I feel that I get what I deserve.

1	2	3	4	5	6	7
Completely Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Completely Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I feel that people treat me fairly in life.

1	2	3	4	5	6	7
Completely Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Completely Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I feel that I earn the rewards and punishments I get.

1	2	3	4	5	6	7
Completely Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Completely Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I feel that people treat me with the respect I deserve.

1	2	3	4	5	6	7
Completely Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Completely Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I feel that I get what I am entitled to have.

1	2	3	4	5	6	7
Completely Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Completely Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I feel that my efforts are noticed and rewarded.

1	2	3	4	5	6	7
Completely Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Completely Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I feel that when I meet with misfortune, I have brought it upon myself.

1	2	3	4	5	6	7
Completely Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Completely Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The following questions help benchmark your results.

Date of birth Day Month Year

What is your gender?

- Female
 Male
 Transgender

Which option best matches your current relationship status?

- Single
 In a relationship (under 1 year)
 In a long-term relationship (over 1 year)
 Married
 Divorced
 Separated but not divorced
 Widowed
 Other

What is the highest level of education you have completed?

- Primary school
 Some high school
 High school graduate
 Trade / technical / vocational training
 Some college / university
 College / university graduate
 Post graduate qualification

How long have you been incarcerated?

Years Months

Which Unit within the prison are you currently in?

What nationality do you identify with?

Are you of Aboriginal or Torres Strait Islander origin?

- Yes, Aboriginal
- Yes, Torres Strait Islander
- Yes, Both Aboriginal and Torres Strait Islander
- No

Have you undertaken the wellbeing and resilience training?

- Yes
- No
- I don't know

Have you previously completed this survey?

- Yes
- No
- I don't know

Please use the space below to add any more comments you wish to make.
