Behavioural Factors that Motivate Work Engagement and Job Satisfaction in the Australian Cotton Industry
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Executive Summary

This report is a summary of the PhD research project conducted by Dr Nicole McDonald and reported as a thesis titled, “Exploring Cotton Farm Workers’ Job Satisfaction by Adapting Social Cognitive Career Theory to the Farm Work Context”.

Australian agriculture has identified that a key component required for driving production gains is a capable and motivated workforce and has been concerned about attracting and retaining good employees to work on farms (Commonwealth of Australia, 2015). The Australian cotton industry has prioritised efforts to understand the on-farm workforce that will drive their ongoing competitiveness and productivity. In seeking to cement the industry’s position as an employer of choice both when it comes to the agricultural industry and for the Australian workforce in general, it is essential that the industry develops a reputation for offering the opportunity for a career where individuals can attain job satisfaction.

Past research conducted for the CRDC on workforce attraction and retention has examined the workforce development systems to better understand how individuals are entering and exiting the industry (Moffatt & Nettle, 2013) and factors influencing farm workers’ turnover intentions (Kuehne, Armstrong, Lee, & Nettle, 2016). Other projects have sought to better understand the current skills profile required for performance of different roles on farm, and the labour supply structures on cotton farms (Kotey, 2017). To date, little research exists that explores the behavioural factors that motivate individuals to be engaged in their work on farm and to experience job satisfaction. Bringing a new vocational psychology perspective to the issues of attraction and retention of farm workers, researchers from the Australian Collaboratory for Career, Employability, and Learning for Living (ACCCELL; McIlveen & McDonald, 2018) have examined individual differences in (a) personality, (b) perceptions of support, (c) confidence in ability, (d) dominant values informing outcome expectancies on farm, and the interaction and effect of these on (e) work engagement, and (f) job satisfaction.

A mixed methods approach was used to investigate the factors influencing work engagement and job satisfaction, and a Social Cognitive Career Theory Model of Farm Worker Job Satisfaction was developed. The relationships between these factors and the proposed theoretical model was quantitatively tested to reveal the potential for targeted interventions seeking to improve farm workers’ job satisfaction.

A large sample of agricultural workers from a number of industries enabled testing of the proposed model; the Social Cognitive Career Theory Model of Farm Worker Job Satisfaction ($N = 173$). Within this sample were participants from the cotton industry ($n = 30$). The lack of data on the population of cotton industry workers and the small convenience sample of cotton industry workers makes it difficult to determine the representativeness of the sub-sample and not possible to conclude the current state of work engagement and job satisfaction for the industry as whole. However, in-depth analysis of the cotton industry sample has given insight
into the many factors that contribute to job satisfaction. Furthermore, the use of interview data collected in a preliminary study and drawn exclusively from the cotton industry has informed the discussion of the model, framing the findings in terms of the experiences of cotton industry workers. This research project has made gains in terms of gathering multiple types of evidence to support the use of career development theory to inform future workforce development strategies and interventions.

Key findings, implications, recommendations and future research

Summarised below are the key findings of the research including those from the analysis of the factors of interest in the cotton industry sample as well as the testing of the SCCT Model of Farm Worker Job Satisfaction. Four key implications of the research and a series of recommendations based on the evidence presented is then discussed. Finally, recommendations are made for future research that (a) evaluates interventions targeting workforce development, (b) attempts to better understand workforce engagement industry-wide, and (c) identifies workforce requirements for the future.

The key findings of the research include:

Proactive Personality

- The more proactive workers were less anxious, more content, and more satisfied with their jobs,
- For the cotton industry workers, a tendency to be proactive had no relationship with work engagement levels; other factors are essential to take a proactive worker and make them a productive worker.

Work Volition

- The less constraints and greater capacity to choose their job reported by farm workers, the more frequent their experiences of meaningfulness, and the more engaged and satisfied they were at work,
- Generally, the more volition reported, the better fit people were for farm work, reporting greater enjoyment of the lifestyle associated with farming, and increased congruence with conservation values associated with sustainable farming.

Perceived Employer Support

- A work environment where workers felt supported and valued led to enhanced wellbeing at work and greater job satisfaction for farm workers,
- Employer support was a key factor for farm workers increased dedication and enthusiasm at work,
- Valuing and caring for workers wellbeing may keep them engaged during peak season times on farm, even when experiencing challenging conditions that might otherwise lead to burnout.
Crop Farm Worker Self-efficacy

- The more confident farm workers were in their ability, the more they felt conservation values of sustainable farming were important when performing work tasks

Farming Values

- The more workers enjoyed the lifestyle that comes with farm work, the more engaged and satisfied they were at work,
- The more workers identified with the conservation values of sustainable farming, the greater their enthusiasm at work,
- Additionally, the better a worker's psychological wellbeing, the more they cared about working in a way that ensured good environmental outcomes for the farm

Wellbeing at Work, Work Engagement and Job Satisfaction

- The strong relationship between work engagement and job satisfaction demonstrated how important job satisfaction was to the farm worker’s productivity on farm,
- The better a worker’s wellbeing and the greater the sense of meaning they experienced at work, the more engaged and satisfied they were on farm.

SCCT Model of Farm Worker Job Satisfaction

- Having a supportive employer and identifying with the conservation values of sustainable farming were particularly important factors for workers to be engaged and satisfied in their jobs on farm, as these not only had direct effects, but also reflected the impacts of the other factors explored on farm workers work engagement and job satisfaction,
- Social Cognitive Career Theory provided a useful lens to examine predictors of work engagement and job satisfaction for farm workers.

Four key implications of these findings that are of particular note include:

- Farm workers' job satisfaction is key to enhancing farm businesses productivity,
- A supportive workplace where farm workers feel valued will lead to better job satisfaction and work engagement,
- Building farm workers’ confidence in their skills can improve their work engagement as increased perceptions of competence help workers value best practice approaches used in sustainable farming and this leads to increased enthusiasm for their job,
- Workers' engagement is positively associated with the agricultural lifestyle values of farming and rural life, which are crucial to attracting and retaining workers in the regions.

Recommendations

It is expected that the findings of the research are used to inform, develop, and support efforts to boost attraction and retention of effective, productive workers to the Australian cotton industry. Given the importance of farm worker
engagement and job satisfaction for attraction and retention, it is recommended that:

- Strategies are developed to improve work engagement and job satisfaction through interventions that target the antecedents of these outcomes, i.e. targeting the factors identified in the SCCT Model of Job Satisfaction.
- Strategies are designed to specifically target different groups of workers depending on labour demands of the industry.
- A review of existing resources for growers and workers in the HR modules of MyBMP are undertaken in light of the current research findings and further information and resources are added where needed.

Three interventions that target work engagement and job satisfaction through the promotion of conservation values congruence, self-efficacy and perceived employer support include:

- Work placements for students on farms need to showcase operations that employ best practice management and clearly communicate to the next generation that a career in the cotton industry provides them with an opportunity to do work that reflects conservation values and sustainable approaches to management of the environment.
- Appropriate training (formal or informal) that provides opportunities for observation, supported learning, mastery experiences and working in a way that promotes psychological safety will encourage continuous development of self-efficacy for workers on farm and ensure they are motivated to employ best practice standards in the performance of their work.
- To unlock the potential of proactive personalities on farm, workplace structures must be designed that (a) demonstrate growers value and support workers, (b) foster the autonomy of workers, and (c) provide genuine opportunities for workers to give suggestions and feedback.

Work placements, training programs, and implementation of effective HR practices are all currently promoted by the cotton industry and the research findings should be used to support continued investment and refinement of these industry programs and initiatives as well as the development of new interventions and resources for growers.

To date, 210 growers are MyBMP accredited and 78% of all cotton growers engage with the MyBMP system (Cotton Australia, 2018) which makes it an ideal platform to promote adoption of HR management that not only meets the employers’ required obligations but also includes practices that lead to engaged and satisfied workers. A number of practical and effective strategies and corresponding resources that are tailored to the cotton farm context should be provided to growers, giving options to fulfil all check list items (including the optional Level 3 items). This would ensure growers are supported to build their capacity in up-to-date efficacious HR practices. Ideally with sufficient resources, growers would be well informed and able to choose how to successfully implement the recommended
HR practices that will ensure the industry cements its position as an ‘employer of choice’.

Future research

Considering the current research findings, the following recommendations on future research include:

- Initiatives that encourage career development and skills training are regularly evaluated through longitudinal participant feedback to further refine these as evidence-based programs with demonstrable efficacy to improve work engagement and job satisfaction.
- It is essential that continued attempts be made by researchers to engage industry-wide encouragement of farm worker/employees to participate in research. This would help to further improve understanding of the strengths, attitudes, values, and structures that foster work engagement for these people.
- Replication of the current study using a larger, more representative sample would certainly add to the validity and reliability of the findings and the corresponding recommendations.

The cotton industry has also identified that future research is needed to investigate the factors influencing adoption of technologies that boost sustainable farming efforts and improve work conditions, as well as identify the talent that needs to be recruited, and the skills that need to be developed to propel the cotton industry forward into the digital agriculture era. Certainly reflecting on the current research, it is hoped these technologies will further improve the lifestyle that is possible when employed on farm as this was shown as an important factor for ongoing work engagement and job satisfaction for farm workers. This research is now underway in the CRDC-funded project Understanding and planning for the future cotton industry workforce.

By investing in research and development associated with the industry’s future workforce, developing grower capacity for implementation of MyBMP HR practices, moving towards evidence-based programs, and prioritising the needs of people that power productivity on-farm, the cotton industry is well placed to maintain and advance its competitive global position in the coming years.
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Communication Strategy

The findings of the research have been shared with industry via the following:

- Australian Cotton Conference 2016
- Association of Australian Cotton Scientists Conference 2017
- Career Development Association of Australia Annual Conference 2017

The following formal research publications are “in press” or “in production”

- McDonald, Perera, & McIlveen (2018). An SCCT Model of Farm Workers’ Work Engagement and Job Satisfaction.
Introduction

The Australian cotton industry has carved out a global reputation for cotton production, embracing innovation to make gains wherever possible. It is widely acknowledged that a key component required for driving agricultural production gains is a capable and motivated workforce, both throughout the supply chain and on-farm (Commonwealth of Australia, 2015). Recognising the value of people in production outcomes, the Cotton Research Development Corporation (CRDC) has been investing in research and formulating a workforce development strategy for the cotton industry. In the workforce development strategy action plan, it is noted:

While cotton growers lead the world in many areas of farm management, general evidence suggests that, like other agrifood industries, human resource management is not keeping pace with changing business models ... The challenge for the cotton industry is whether the talent for innovation can be adapted to developing a more sustainable approach to securing a workforce (Agrifood Skills Solutions, 2015, p. 19).

This report summarises a research project that was initiated to innovate perspectives and models of workforce engagement and job satisfaction in cotton workforce employees. The findings of the research suggest new ways forward to ensure the Australian cotton industry is regarded as an “employer of choice” in agriculture.

Attracting, Engaging, and Retaining Employees

Competition for quality employees in agriculture requires a greater focus on what is attractive, engaging, and motivating about a particular workplace, and cotton farms are no exception. In attempting to tackle current on-farm workforce attraction and retention issues, the cotton industry aims for each cotton farm to be viewed as a desirable workplace where employees can achieve overall job satisfaction (Agrifood Skills Solutions, 2015). For the individual, job satisfaction has been linked to a number of positive health and wellbeing outcomes, and is one domain that can influence overall life satisfaction (Faragher, Cass & Cooper, 2005; Ford, Heinen, & Langkamer, 2007; Lent et al., 2005). Job satisfaction has also been linked to worker productivity, commitment and reduced turnover intentions (Judge, Thoresen, Bono, & Patton, 2001; Griffeth, Hom, & Gaertner, 2000; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). In fact, large scale research, involving more than 54,417 participants’ data, reveals a significant but marginal relationship between pay and pay satisfaction with overall job satisfaction (Judge, Piccolo, Podsakoff, Shaw, & Rich, 2010). This international finding leads to suggestions that other job features are more influential in predicting this job attitude. Thus, it is appropriate to raise the crucial question, “What behavioural factors influence farm workers’ job satisfaction in the cotton context?”. Indeed, this research project found a need to better understand the psychological factors that impact a farm worker’s career experiences and result in
the individual’s attitudinal appraisal. And to answer that question requires a review of the research literature in the applied psychology fields focused on work: vocational, organisational, and industrial. Therein lies the conceptual and methodological innovation that this research brings to the cotton industry.

The Model of Farm Worker Job Satisfaction

Global industries such as mining, accounting and financial services, health, and defence effectively use behavioural science to recruit and retain staff, and enhance productivity. Agriculture and cotton are yet to reap the human resource benefits enjoyed by these industries. Thus, a key outcome of the present research was to formulate a behavioural model of cotton farm worker job satisfaction.

The Social Cognitive Career Theory proposes a model of job satisfaction that maps the relationships between five predictor variables:

- (a) personality and affective traits;
- (b) goal and efficacy-relevant environmental barriers, supports and resources;
- (c) self-efficacy;
- (d) expected and received work conditions and outcomes; and
- (e) goals and goal-directed activity, and their direct and indirect influence on fostering (or inhibiting) the individual’s experience of work satisfaction (Lent & Brown, 2006a).

The SCCT model has been successfully tested in a wide range of occupations and in individuals pursuing careers across many different disciplines. Developing and testing a variation of this model specifically for the cotton farm context offers the potential to identify areas of specific influence that can be targeted to improve goal-directed activity and job satisfaction.

A review of the literature and interviews with cotton farm workers and growers guided the selection of constructs to operationalise the broad variables of Social Cognitive Career Theory. The SCCT model of farm worker job satisfaction (presented in Figure 1) explores the relationships between (a) proactive personality, (b) perceived employer support, (c) crop farm worker task self-efficacy, (d) farming values congruence, (e) work engagement, and (f) job satisfaction. Other constructs explored of interest for understanding job satisfaction in the cotton farm work context were work volition and wellbeing at work. A summary of all constructs is now provided.
Interviews with growers and managers indicated that they saw a need for workers with a “proactive” approach to their work.

"I can teach you to do anything in the world, but I can’t teach you to be keen … self-motivated is the biggest thing here” (Leading Hand)

“Common sense and showing initiative, I think those are the two most important things” (Leading Hand)

“So you’re looking for someone that is independent, can do a lot of thinking for himself and then call me last resort” (Farm Manager)

“There just must be a drive in there or something that pushes us to say, well bugger you, I’m going to prove that it can be done” (Grower)

Someone who is considered to possess the trait of proactive personality has been defined as “one who is relatively unconstrained by situational forces, and who affects environmental change” (Bateman & Crant, 1993, p. 105). Behaviours consistent with proactive personality include: (a) asking questions and learning quickly, (b) independent thinking, and (c) showing initiative at work. This keenness to learn and willingness to approach challenges at work are desirable attributes for agricultural employees according to the cotton farm workers and growers interviewed.
While no research to date has studied proactive personality in agricultural workers, it has been shown to be an important attribute for production workers experiencing high job demands. In particular, workers who are higher in proactive personality and are given the autonomy to exert some control over their work report lower levels of job strain and work stress in the face of high job demands (Parker & Sprigg, 1999). Very proactive individuals can thrive in these sorts of challenging environments. Further research has shown proactive personality is associated with workers’ confidence to complete a range of activities outside of their prescribed job tasks, with them taking a flexible approach to their work roles as opposed to a “that’s not my job” attitude to tasks (Parker, Williams, & Turner, 2006).

Work Volition

It seems obvious that a worker should feel in control of their work because this is part of what motivates their productivity. It is important to know the factors that can enhance or diminish their sense of control.

“I got to the stage where I was sort of like do I love this because this is all I know and it’s been shoved down my throat or do I love it because this is actually what I want to do for the rest of my life? (Grower)

“I said, well I love farming. She said as long as it’s not under the circumstances that you’re going to be working seven days a week, big hours, and not having anything to do with the kids” (Farm Manager discussing consideration of family responsibilities when choosing a farm career or to pursue work in another profession)

“You know, most kids will take over the farm but there’s no opportunities at [farming district in NSW]” (Leading Hand, discussing the lack of opportunity to take over the family farm)

“... they start counting down the day they start on the farm” (Leading Hand discussing backpacker workers)

Work volition describes the perception someone has of their ability to make career choices even in the face of limiting constraints such as financial pressures or economic conditions that affect the jobs available to them (Blustein, 2006). An individual’s work volition may affect their motivation at work. If it is low they may be motivated by survival needs, finding whatever work they can to gain an income. If it is high, they may be motivated by self-actualisation needs, finding employment that makes use of their talents.

Studies of working adults have found strong significant relationships between work volition and job satisfaction (Duffy, Bott, Torrey, & Webster, 2013). A person’s belief that they can easily find employment in their preferred job may also strengthen or weaken the relationship between other factors that influence job satisfaction. For example, a worker’s perception that their employer values their contributions and cares about their wellbeing is a particularly important influencing factor on job satisfaction for people with low work volition, i.e. the support people get from employers is an important factor for job satisfaction and this is even more so for people who may be in jobs that are not necessarily roles they would do if they had more occupational choice. Furthermore, the positive effect that a worker’s
confidence in their ability to do their job has on their job satisfaction becomes less pronounced for workers with low work volition, i.e. while these workers are in jobs they can do, they may be limited to a job they don’t necessarily want to do hence low job satisfaction (Duffy, Bott, Torrey et al., 2013).

**Perceived Employer Support**

Believing that your employer trusts and values your work and cares about your wellbeing is a major source of motivation and productivity.

“He said ‘the place is a credit to you’... and that’s a lot to me ... that’s better than most pay rises, for them to acknowledge what you do.” (Farm Manager).

“They’re very family oriented at this farm. They give you the time. If there’s something to go in your family life, it comes first ... They’ll shift people around to give you the time. That’s why I’m still in the industry now because if it wasn’t like that I probably would have went to the mines.” (Farm Manager)

“[The grower’s] a very easy going fellow who um – and I guess that’s the two attitudes of the world. There’s people who say who did this and the people who say what do we need to do to make that go again? And [the grower’s] not a finger pointer at all.” (Leading Farm Hand)

“It comes back to the people you work with, like they’re good to work for, if you’re in a good spot there’s no point changing” (Farm Hand)

A worker’s appraisal of employer support refers to whether they feel their contributions are valued at work and that their organisation genuinely cares about their wellbeing. Numerous studies have found moderate to strong links between perceived organisation support and job satisfaction (Rhoades & Eisenberger, 2002). It has been suggested that workplace rewards and favourable job conditions contribute to increased perceptions of employer support (Esienberger et al., 1986).

Previous research has found that: (a) employees who feel supported and valued are more likely to expect they will be rewarded for their efforts and feel they can seek assistance or aid when attempting challenging tasks, (b) employees who perceive that a work-place cares about their socio-emotional wellbeing are also more likely to then assimilate and identify with the dominant values of the workplace, and (c) employees’ perceptions of support were moderately related to greater job involvement (Rhoades & Eisenberger, 2002; Panaccio & Vandenberghe, 2009). According to the interview participants, the support farm workers receive from their employer can be an important resource that helps sustain their drive to keep working in challenging conditions.

**Crop Farm Worker Task Self-Efficacy**

This research project produced the first psychometric measure of cotton farm workers’ perceptions of their confidence to perform work tasks. Industrial research shows that such beliefs impact a workers’ ability to perform their job.
And then over the last probably five or six years ... I'm starting to understand more of the technical side of it. And if it's seed placement is not in the right spot and all of that side of things. The moisture's not there or whatever, then you don't get the good crop (Leading Farm Hand)

like just say with spraying, I know I'm not the best at it yet, but it's, um, it takes a fair bit to get used to it ... and you can tell when you are doing a good job, or like you're doing a good enough job, but you can still improve. Like that's just your learning thing ... you'll get better. Like more practice makes perfect. (Farm Hand)

So he comes out to the farm to get three months. He got no experience at all. He don't even drive a car. And that's what he said to me. He said driving tractors, it's a bit like driving a car. I said, no [laughing] not even close. (Leading Hand discussing a backpacker that may have inflated self-efficacy to perform the task but has underestimated the skill level involved)

So I can get on most things and if I'm shown the basics, I'll pick it up because I've had it in my life ... yeah and you just carry on (Farm Manager)

Self-efficacy is the belief individuals have in their ability to carry out specific behaviours or tasks (Bandura, 1977). Self-efficacy can vary greatly; one can be very confident in their ability to drive a car but have low confidence in their ability to perform mechanical maintenance on a car. It has been theorised that self-efficacy helps individuals frame obstacles at work as challenges to be mastered and helps to sustain their efforts resulting in their successful attainment of work goals (Bandura, 1997). However, confidence that is excessively higher than one's actual performance ability could be problematic for unskilled workers on farm. High levels of self-efficacy to perform tasks that provide little to no challenge for the worker could also result in them feeling poorly matched to certain jobs and professionally frustrated at work.

Self-efficacy has been widely studied in the workplace and has been found to significantly predict work performance and job satisfaction (Stajkovic & Luthans, 1998; Judge & Bono, 2001; Chen, Goddard, & Casper, 2004). However, some have claimed that the overall predictive influence of self-efficacy on work performance, compared to other individual difference factors such as personality, is small (Judge, Jackson, Shaw, Scott, & Rich, 2007). Interestingly, in a study conducted across a number of occupations, it was found that farmers were one of the few professions in which occupational self-efficacy had a direct effect on job satisfaction above and beyond personality factors but whether this is true for other workers on farm is yet to be seen (Maggiori, Johnston, & Rossier, 2016). Mixed findings have been reported for the influence of self-efficacy on goal-directed activity and performance, with contextual factors such as task complexity and performance ambiguity affecting this relationship in working populations. This is apparent when people who feel very confident in their abilities are asked to perform a task that is not very challenging or do not clearly understand the expectations of their employer, their confidence may lead them to underestimate what is needed to achieve the outcome required and they allocate less effort to the performance of this task (Duffey, Bott, Torrey, & Webster, 2013; Stajkovic & Luthans, 1998; Schmidt & DeSchon, 2010). From the interviews it was clear that self-efficacy was
important for workers that want a career on farm as they need to develop skills quickly, work independently, and continue to adapt to the use of new technology or approaches to farming.

**Farming Values Congruence**

This research found an extraordinary relation between workers’ sense of valuing the land and their job satisfaction. This is a powerful motivating influence.

“At the end of the day the more money I make for the owner, the more he spends on the farm. The more he looks after me.” (Farm manager).

“I get out of bed every morning to improve this farm” (Farm manager)

“They don’t want to poison that land because that’s where their money comes from. So they’re going to take the best care of it they can. They’re going to stop the erosion when they can because it wrecks their money making potential. They’re not gonna spray harmful chemicals out because their kids live right there.” (Leading Farm Hand)

“It’s very much a blurred - and you’ll find that if you were to come round my house on a Saturday or go round (his co-worker’s home) on a Saturday, we’d be doing something very similar to what I do for work. I, I’d be outside putting up a fence for the chickens or building a motorbike for the kids, or we’d - that’s the, that’s part of the lifestyle. This job is very much um how we all like to live I guess.” (Leading Farm Hand)

The outcomes that are on offer in the pursuit of farm work are underpinned by the values of the farm workplace. A worker’s identification with these workplace values influences their perceptions of whether the goals that can be attained on farm are worth the effort required and may affect whether they find the pursuit of farm work personally satisfying. Values congruence is one way to assess the individual’s ‘fit’ with the job, work environment and employer. This factor has been found to have the most impact on job satisfaction, organisational commitment, and turnover intention compared to other ways of understanding person-organisational fit (Verquer, Beehr, & Wagner, 2003; Hoffman & Woehr, 2006).

Maybery, Crase, and Gullifer (2005) have found that the dominant values Australian farmers place on their landholdings can be categorised as economic, conservation, and lifestyle farming values. It is likely that individuals who identify with these economic, conservation and lifestyle values, perceive important outcomes of their jobs as related to (a) contributing to maximise profits, (b) leaving the land in better condition than when they found it, and (c) connecting to a desirable rural community. It is expected that in pursuit of these outcomes, farm workers experience states of work engagement and higher levels of job satisfaction. The conservation values aspect may be particularly important for younger people interested in the agriculture industry who are attracted to farming operations that use up-to-date science and technology in sustainable approaches to grow their crops and manage their land (Turner & Hawkins, 2014).
Affective Wellbeing at Work

Mental health and wellbeing at work is now a major international issue for industries, governments, and, on the ground, supervisors and workers.

If you don't have that bit of time of an afternoon when you finish work, then your brain works all night. Then you wake up in the morning and you're tired and you can't remember stuff because you've been working on it all night in your mind and it just - it's difficult that side of things. But then I suppose it's difficult for everybody. (Leading Hand)

whether you’re in a hotel somewhere or in a big city, like it's probably - you feel more lonely in them sort of places than you feel in a rural community. So um...I think it plays a big part of why, why we live where we live and why we work where we work (Grower)

He wants everyone to - to make a life for themselves here. It's all there and he wants a happy farm. If you've got - if you're not happy, you're not going to come to work happy. That will stress out on other people which won't make them happy. (Farm Manager)

Affective wellbeing at work encompasses feelings of pleasure and positive mood, as well as a sense of meaningfulness derived from work (Monnot & Beehr, 2014). These feelings differ not only in terms of positive valence (“good-ness”) or negative valence (“bad-ness”) but also in their level of arousal (presence or absence of energy). For example, enthusiasm would be considered a positive, high-arousal emotion, while contentment would be considered a positive, low-arousal emotion. While this emotion-based construct does not fit neatly into the Social Cognitive Career Theory model of job satisfaction, it was included for exploration purposes due to other psychological research on attitude formation. Job satisfaction is an attitude and it has been proposed that both cognitive appraisals and affect influence attitude development (Weiss, 2002).

Work Engagement

The interview participants were all examples of highly engaged workers, with their dedication evident in their daily actions, goal setting, and emotional commitment to their work.

"With the cotton it's, it was ah um every single part of it could be changed by you. It's a - what you put into the field, if the machine wasn't set up right or if the planting wasn't done to the right depth or - all of that affects your crop.” – Leading Hand

"Well I love the job. So that makes me want to, ah, really get into it and learn.” (Leading Hand)

When it's like a busy day like sometimes you're watching the clock and hoping for it to go slower so you can get things done. Like if you've got to get stuff done but yeah no it's, um - yeah you do get stuck in your days sometimes and they just - which is good, like you can achieve a lot (Farm Hand)

"See just in farm work you can set so many different goals and, um - and different achievements and once you hit them it's a good thing.” (Farm Manager)
"I take my job as heart-to-heart. With my job everything’s important to me so I can - like I treat it like my own.” (Farm Manager)

Work engagement describes the state of an individual when they personally invest their energy and attention in the performance of their daily work tasks (Christian, Garza, & Slaughter., 2011). It has been proposed that work engagement is typified by experiencing vigour and energy at work, a sense of absorption in the job, and being dedicated and enthusiastic in performance of one’s role (Schaufeli & Bakker, 2004). This kind of highly motivated work activity has been positively linked to job satisfaction and job performance, and predicts reduced turnover intentions of employees (Christian et al., 2011). A meta-analysis of antecedents of work engagement found that work demands such as work overload are negatively related to work engagement, and work resources including social support, autonomy, feedback, positive organisational climate and self-efficacy are positively related to work engagement (Halbesleben, 2010).

The negative impact of job demands on work engagement may be of concern in the cotton industry as reports of excessive on-farm work hours expected of employees could relate to the prevalence of self-reported burnout and work related stress (Moffat & Nettle, 2013). However, a more recent study found cotton farm employees who reported long work hours during peak periods (52 hours to 74 hours per week), still reported moderately high engagement levels and low intention to quit (Kuehne et al., 2016). These farm workers also reported high levels of support from their supervisors and low to moderate levels of burnout. No correlations or multivariate analysis of these data was reported and the small convenience sample ($N = 22$) potentially opted to participate because they are engaged at work. Despite these limitations, this evidence is promising in demonstrating the potential for employer support to promote work engagement in the face of job demands such as high workload. From the interviews for the current study, it was clear that the participants were highly engaged, demonstrating dedication and enthusiasm for their job and took pride in their efforts and accomplishments.

Job Satisfaction

It was clear that work on cotton farms offered individuals the opportunity to experience job satisfaction and that this sustained their desire to continue working in the cotton industry, with their current work teams, and for their current employer.

I get a great deal of satisfaction of actually watching plants grow and watching the science behind it and actually producing something at the end of the day... there’s a great deal of satisfaction of actually producing something yourself. (Grower)

I think hopefully, under my case, it gives the employee a lot more satisfaction. I mean if he's helping out and he feels part of a business or feels part of the um, environment he’s in (Grower)
After six months of being there, and she just goes over, hooks the machine up, checks all the oils, checks everything, gives it a grease, drives it back to the shed, gives it all a grease up and then goes and starts digging up the field for you. The satisfaction in that is just fantastic. (Leading Hand describing a sense of satisfaction after training a young backpacker on farm)

It is rewarding but a lot of work goes into it so it sort of like yeah makes you feel pretty good when it all comes off [laughs] (Farm Hand)

Job Satisfaction is one of the most widely studied constructs in relation to how people understand and evaluate their work experiences. It has been defined as “a pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences” (Locke, 1976, p. 1300, as cited in Lent & Brown, 2008). Job satisfaction has been explored as a multi-faceted construct, with employees rating their satisfaction levels on a range of factors such as pay, promotion, work tasks, supervision, and co-worker relationships (Brayfield & Rothe, 1951; Warr, Cook, & Wall, 1979). For the current study, job satisfaction has been conceptualized as an overall judgement.

For the individual, job satisfaction has been linked to reduced incidences of poor physical and mental health; in particular individuals experiencing low levels of job satisfaction are more likely to report lower self-esteem, higher levels of anxiety and depression and to experience emotional burn-out (Faragher et al., 2005). Experiences of job satisfaction may also impact on other domains of wellbeing, including family satisfaction and overall life satisfaction (Ford et al., 2007; Lent et al., 2005). For the organisation, high job satisfaction has been associated with improved job performance, reduced turnover, and stronger affective organisational commitment, all of which can impact the productivity of the workplace (Judge et al., 2001; Griffeth et al., 2000; Meyer et al., 2002). Results of a meta-analysis also demonstrated the positive relationship between employees’ overall job satisfaction and engagement, with the additional organisational outcomes of loyalty, safety and profitability (Harter, Schmidt, & Hayes, 2002).

The potential for job satisfaction to reduce turnover intention may be particularly important for the permanent agricultural workforce. During the drought at the turn of the century, experienced farm workers left the industry when growers down-sized operations, resettled elsewhere, and have not re-entered the industry (Moffatt & Nettle, 2013). With labour requirements dependent on external economic and climatic factors, the potentially insecure nature of a career in agriculture is a barrier towards building an experienced, capable, permanent workforce. Job insecurity is associated with lower organisational commitment, and an increased likelihood that workers will exit the industry, particularly those who are skilled and have the opportunity to find more stable work elsewhere. In addition, studies have shown that job insecurity negatively impacts job satisfaction and that the relationship between job insecurity and turnover intention is stronger for manual workers than non-
manual workers (Sverke, Hellgren, & Naswall, 2002). Understanding the psychological factors which keep people experiencing job satisfaction in the face of this uncertainty is important to retaining staff and ensuring the industry benefits from investments made to train and up-skill new and existing workers.

It has been argued that job satisfaction is a valuable outcome for permanent employees, but it is also important for the large number of casual and contract workers employed on farms. Backpackers and other casual workers may be at risk of experiencing lower levels of job satisfaction, especially when they compare the outcomes they receive with permanent workers (Wilkin, 2013). The workplace provides a major life experience that in today’s world will be reflected on and communicated about through increasingly vast social media networks, both to other backpackers and Australian residents (Haygroup, 2014; Field, 2015, January 20). A positive experience has the potential to turn short-term workers into advocates of the cotton industry as a preferred employer, increasing the desirability and possible numbers of people seeking this type of agricultural work. A larger talent pool may increase the quality of worker who can be hired.
Research Methodology

The current research used an online self-report survey (the full survey can be found in Appendix A) to quantitatively measure (a) proactive personality, (b) work volition, (c) perceived employer support, (d) crop farm worker task self-efficacy, (e) farming values congruence, (f) wellbeing at work, (g) work engagement, and (h) job satisfaction. This survey was initially distributed through CRDC’s grower email list in October 2015. When this returned a limited number of responses over a period of 6 weeks, the recruitment strategy widened. To obtain the sample size required to test the hypothesised model it became necessary to expand the participant pool beyond those exclusively employed within the cotton industry. A farm worker was defined as anyone who was employed within an Australian farming enterprise. It was argued that these workers form the talent pool from which the cotton industry can draw their employees and therefore useful for testing the predictors of farm work job satisfaction. All attempts have been made to thoroughly interrogate the cotton industry data and to use the interviews with cotton farm workers and growers in interpreting meaning from the broader sample in order to keep findings relevant for the Australian cotton industry. From the responses, analyses have been conducted to answer the following questions:

1. How do the constructs of interest present in the sample of cotton workers?
2. What relationships between the constructs of interest exist for cotton workers?
3. What factors are particularly influential for farm workers’ experiences of job satisfaction according to the SCCT Model of Farm Worker job satisfaction?

Participants

The overall convenience sample consisted of 173 participants. A number of participants (ranging between \( n = 38 - 53 \)) did not complete the demographic questions at the end of the survey. Those who did ranged in age from 18 years to 73 years \((M = 31 \text{ years}, n = 131)\) and were predominantly male \((n = 83; \text{ female, } n = 50)\). A majority of participants were backpackers or held other temporary visas \((n = 86)\), and 49 participants indicated they were citizens or permanent residents of Australia. The number of years’ that participants had been employed in the agricultural industry ranged from less than one year to fifty-five years \((n = 129)\). The sample was skewed such that approximately half of the responding participants had been employed in the agricultural industry for one year or less \((n = 62)\). Participants reported employment in a range of roles, including 61 people in unskilled entry level jobs (e.g. fruit picker/packer), 29 people in skilled on-farm jobs (e.g. farm hand, farm mechanic), 24 people in farm supervisor/manager roles (e.g. farm manager), 5 people employed as agronomists and 5 performing other roles on farm (e.g. office administrator). Only forty-nine people reported they were in permanent positions, with most responding participants employed on a contract or casual basis \((n = 84)\). Less than 18% \((n = 30)\) of respondents worked on properties that grew cotton.
When considering a comparison of cotton industry workers with other agricultural workers there are limitations due to the differing demographics for both samples and what this may mean in terms of different experiences at work. Most noticeably approximately 70% of the other agricultural industry sample consists of 417-visa holders and other temporary work visa-holders, while the cotton industry sample consists of mostly Australian citizens and permanent residents (approximately 85%). Further information about the demographics of the cotton industry sample is presented in the table below:

Table 1. Demographics for Cotton Industry Workers ($N = 28$)*

<table>
<thead>
<tr>
<th>Job Position</th>
<th>Age (years)</th>
<th>Gender</th>
<th>State</th>
<th>Education</th>
<th>Years In Ag</th>
<th>Years with current Employer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner/Farm Manager (N = 5)</td>
<td>34-73 years</td>
<td>Male = 5</td>
<td>NSW = 4</td>
<td>Undergraduate = 2</td>
<td>4-55 years</td>
<td>2-35 years</td>
</tr>
<tr>
<td></td>
<td>M = 47</td>
<td>Female = 0</td>
<td>QLD = 1</td>
<td>Certificate = 1</td>
<td>M = 26.4</td>
<td>M = 9.10</td>
</tr>
<tr>
<td></td>
<td>(SD = 16.8)</td>
<td></td>
<td></td>
<td>Grade 10 = 1</td>
<td>(SD = 20.65)</td>
<td>(SD = 4.50)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NR = 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assistant Manager (N = 8)</td>
<td>22-53 years</td>
<td>Male = 6</td>
<td>NSW = 4</td>
<td>Postgraduate = 2</td>
<td>5-40 years</td>
<td>1-24 years</td>
</tr>
<tr>
<td></td>
<td>M = 32.63</td>
<td>Female = 2</td>
<td>QLD = 4</td>
<td>Undergraduate = 2</td>
<td>M = 16.25</td>
<td>M = 7.03</td>
</tr>
<tr>
<td></td>
<td>(SD = 10.04)</td>
<td></td>
<td></td>
<td>Diploma = 1</td>
<td>(SD = 12.02)</td>
<td>(SD = 7.53)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Certificate = 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Grade 10 = 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm Hand / Seasonal Worker</td>
<td>18-27 years</td>
<td>Male = 7</td>
<td>NSW = 3</td>
<td>Diploma = 2</td>
<td>1-10 years</td>
<td>&lt; 3 months</td>
</tr>
<tr>
<td>(N = 8)</td>
<td>M = 23.25</td>
<td>Female = 1</td>
<td>QLD = 4</td>
<td>Certificate = 2</td>
<td>M = 4.31</td>
<td>5 years</td>
</tr>
<tr>
<td></td>
<td>(SD = 3.01)</td>
<td></td>
<td></td>
<td>Grade 12 = 2</td>
<td>(SD = 3.04)</td>
<td>M = 1.41</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Grade 10 = 2</td>
<td></td>
<td>(SD = 1.76)</td>
</tr>
<tr>
<td>Agronomist (N = 5)</td>
<td>24-38 years</td>
<td>Male = 2</td>
<td>NSW = 4</td>
<td>Postgraduate = 3</td>
<td>4-20 years</td>
<td>2-5 years</td>
</tr>
<tr>
<td></td>
<td>M = 29.60</td>
<td>Female = 3</td>
<td>QLD = 1</td>
<td>Undergraduate = 1</td>
<td>M = 9.60</td>
<td>M = 3.3</td>
</tr>
<tr>
<td></td>
<td>(SD = 5.23)</td>
<td></td>
<td></td>
<td>Certificate = 1</td>
<td>(SD = 6.23)</td>
<td>(SD = 1.40)</td>
</tr>
<tr>
<td>Other/Unknown (N = 2)</td>
<td>18-60 years</td>
<td>Male = 0</td>
<td>QLD = 1</td>
<td>Diploma = 1</td>
<td>3-4 years</td>
<td>1 - 3 years</td>
</tr>
<tr>
<td></td>
<td>M = 43</td>
<td>Female = 2</td>
<td>NR = 1</td>
<td></td>
<td>M = 3.50</td>
<td>M = 2.00</td>
</tr>
<tr>
<td></td>
<td>(SD = 13.03)</td>
<td></td>
<td></td>
<td></td>
<td>(SD = .71)</td>
<td>(SD = 1.41)</td>
</tr>
</tbody>
</table>

* Note. Overall cotton industry sample was 30 participants. Two cases recruited through the multiple cotton industry specific networks did not report any demographics, these cases were determined as belonging to a farm manager and an unknown job position. NR = no response. M = mean. SD = standard deviation

1 Please see the technical notes on the analysis for further comment
Measures

**Proactive personality** is measured using the 6 item and 4 item short version of the Proactive Personality Scale (Bateman & Crant, as cited in Claes, Behedt, & Lemmens, 2005). Example items in this measure include “I excel at identifying opportunities” and “If I believe in an idea, no obstacle will prevent me from making it happen”.

**Work volition** is measured using the Work Volition Scale – 13 item, which captures participants’ perceptions of financial and structural constraints and their belief in their capacity to make job choices (Duffy, Diemer, Perry, Laurenzi, & Torrey, 2012). Example items include “I feel able to change jobs if I want to”, “due to my financial situation I’ll take any job I can find”, and “the jobs I would like to pursue don’t exist in my area”. These were rated on a scale from (1) strongly disagree to (7) strongly agree.

**Perceived employer support** was measured using an adapted version of the Survey of Perceived Organisational Support – 8 item (Eisenberger, Huntington, Hutchison, & Sowa, 1986). Example items include “My employer takes pride in my accomplishments at work” and “My employer would ignore any complaint from me”.

**Crop farm worker task self-efficacy** was measured using a new scale listing 10 tasks that workers reported were associated with broad acre crop farming. Example items that participants rated their confidence to perform were: “operate heavy machinery (e.g. tractors, tractor-drawn machinery, and self-propelled machinery)“ and “Apply pesticides, herbicides, or fertilisers to crops”.

**Farming values congruence** was measured using The Landholders Values/Objectives Scale (Maybery, Crase, & Gullifer, 2005). This scale was reworded to measure the level of agreement workers had with each value statement. Items included “Dollars and cents is what farming is all about”, “The lifestyle that comes with being on the farm is very important to me”, and “The most important thing is leaving the property in better shape than when I found it”.

**Affective wellbeing at work** was measured with an existing subjective wellbeing scale that captures respondents’ experiences of affect while on the job along the anxiety-contentment continuum and the job depression-enthusiasm continuum (Warr, 1990). Meaningfulness at work is measured using a subscale that captures incidences in which participants feel positive aspects such as valuable, or personally fulfilled, and negative aspects such as trivial or irrelevant (Monnot & Beehr, 2014).

**Work engagement** was measured using the Utrecht Work Engagement Scale – 9 item (Schaufeli & Bakker, 2004). Example items include “At my work, I feel bursting with energy”, “I am immersed in my work”, and “I am enthusiastic about my job”.

Job satisfaction was measured using the five item Job Satisfaction Scale (Judge, Locke, Durham, & Kluger, 1998). Example items include “I feel fairly satisfied with my present job” and “I find real enjoyment at my work”.

Analysis

A summary of the frequency counts and examination of each construct at the item level for the cotton industry is presented. The mean scores on each construct for the cotton industry and other agricultural industries are compared. The relationships between the variables of interest for the cotton industry are explored. Finally, the structural equation modelling analysis of the SCCT Model of Farm Worker Job Satisfaction is presented. Further technical notes on the analyses performed can be found in Appendix B.
Key Research Findings

Proactive Personality

Figure 2. Histogram of Proactive Personality for cotton industry workers (N = 28)

All cotton industry participants reported the presence of proactive personality traits with average scores ranging from 4.33 to 7.00\(^2\). Although there was some disagreement by a few participants with individual items on the proactive personality scale, it was promising to see all agreed that they were “always looking for better ways to do things” (slightly agree, n = 3; agree n = 14; strongly agree, n = 11).

While proactive personality is often viewed as a positive worker attribute, it is possible that some proactive personality tendencies are not adaptive to the workplace and are suppressed to reduce workplace conflict, e.g. farm hands had mixed responses to the item “I love being a champion for my ideas, even against others’ opposition” with two participants indicating they slightly disagreed or disagreed, whereas those workers in more influential positions, such as farm managers and agronomists, tended to agree in their response to this item.

The proactive personality mean for the cotton industry (M = 5.54, SD = .64) was significantly higher than the mean for other agricultural industries (M = 5.08, SD

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\(^2\) Overall scores for Proactive Personality are traditionally the sum of scores for each item on the Proactive Personality Scale – 6 item. For easier visual interpretation, these overall scores have been divided by the number of items on the scale. Therefore, Proactive Personality scores represented above are each participants average score across the items and can range from (1) strongly disagree to (7) strongly agree. Scores greater than 4 indicate agreement or presence of proactive personality traits, scores equal to 4 indicate neither agree nor disagree or neutral position, scores less than 4 indicate disagreement or absence of proactive personality traits.
=.80; \( t(138) = 2.83, p = .0053 \). However, the comparison of means for citizens, permanent residents and 457 visa holders across the two samples revealed no differences between the cotton industry sample \((n = 25)\) and the other agricultural industry sample \((n = 29)\).

### Work Volition

Preliminary analysis of work volition revealed that the items of the Work Volition Scale were not unidimensional and consequently each subscale; volition, financial constraints, and structural constraints has been analysed.

#### Volition

Figure 3. Histogram of Volition for cotton industry workers \((N = 30)\)

For the cotton industry sample, average scores on the volition subscale ranged from 4.00 to 7.00\(^3\). Twenty-six participants in the cotton industry felt they had some capacity to make career choices (mean volition score > 4, with the remaining four indicating overall neutral perceptions on this factor (mean volition score = 4). With 33% of cotton industry participants \((n = 10)\) scoring on average between 5 (slightly agree) and 6 (agree), and 43% of cotton industry participants \((n = 13)\) scoring on average between 6 (agree) and 7 (strongly agree), it would appear that a significant proportion of workers are confident in their ability to pursue their career of choice. That they have exercised their volition and chosen employment

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\(^3\) Overall scores for Volition are traditionally the sum of scores for each item on the volition subscale of the Work Volition Scale -13 item. For easier visual interpretation, these overall scores have been divided by the number of items on the scale. Therefore, volition scores represented above are each participants average score across the items and can range from (1) strongly disagree to (7) strongly agree.
in the cotton industry may indicate that work on cotton farms offers appealing career options for some.

A worker’s perception that they were “able to change jobs if I want to” was unrelated to all other perceptions of their ability to choose a job that they want. To change jobs in farming could potentially mean relocation and moving residences. That one farm manager strongly disagreed that he was able to change jobs if he wanted to, but strongly agreed he has been able to choose the job he wants, perhaps demonstrates that the ability to change jobs may not always be related to work volition but is more a reflection of restricted mobility due to other non-work related factors such as family commitments. This highlights the limitation of existing measures commonly used to study workforce attitudes as they may not always be valid for the cotton farm context.

The volition mean for the cotton industry \( (M = 5.53, SD = .89) \) was significantly higher than the mean for other agricultural industries \( (M = 4.86, SD = 1.04; t(169) = 3.26, p = .0013) \). However, the comparison of means for citizens, permanent residents and 457 visa holders across the two samples revealed no differences between the cotton industry sample \( (n = 27) \) and the other agricultural industry sample \( (n = 29; t(54) = .73, p = .47) \).

**Financial Constraints**

![Figure 4. Histogram of Financial Constraints for cotton industry sample \( (N = 30) \)](chart)
Cotton industry workers reported scores for the perceptions of financial constraints that ranged from 2.80 to 7.00\(^4\). Twenty-five participants indicated on average financial constraints were not impacting their job choices (financial constraints mean > 4), while the remaining five participants reported that overall their financial responsibilities were a factor influencing their employment above and beyond the pursuit of any personal career aspirations (financial constraints mean < 4). This was the only work volition factor that was correlated with the participant’s age (r = -.514, p = .005) such that the older the worker the more perceived limitations there were on their work volition due to their financial responsibilities.

Indicating agreement with the item “when looking for work I’ll take whatever I can get” was unrelated to the item “I don’t like my job but it would be impossible for me to find a new one”. Perhaps this means that while people may be constrained by their financial situation to be open to taking any job and to find employment quickly, in some locations the job market is such that work is regularly available on a number of different farm businesses. Thus, if the current job becomes untenable then it is possible to “take whatever you can get” elsewhere.

The financial constraints mean for the cotton industry (M = 5.49, SD = 1.38) was significantly higher than the mean for other agricultural industries (M = 4.08, SD = 1.31; t(169) = 5.31, p < .0007). However, the comparison of means for citizens, permanent residents and 457 visa holders across the two samples revealed no differences between the cotton industry sample (n = 27) and the other agricultural industry sample (n = 29; t(54) = 1.79, p = .08).

**Structural Constraints**

For the cotton industry, average scores on the structural constraints factor ranged from 2.75 to 7.00\(^5\). Twenty-four participants on average indicated structural constraints were not a barrier to their ability to choose their job (mean score >4), one participant’s average score was neutral (mean score = 4), and five participants indicated the presence of structural constraints hindering their work volition (mean score < 4).

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\(^4\) Items on the financial constraints scale and the structural constraints scale are reverse scored such that a higher score indicates less financial and structural constraints and correspondingly greater work volition. Overall scores for financial and structural constraints are traditionally the sum of scores for each item on the financial and structural constraints subscale of the Work Volition Scale -13 item. For easier visual interpretation, these overall scores have been divided by the number of items on the scale. Therefore, financial and structural constraints scores represented above are each participant’s average score across the items and can range from (1) strongly agree (greater financial constraints) to (7) strongly disagree (less financial constraints).
Figure 5. Histogram of Structural Constraints for cotton industry workers ($N = 30$).

It appeared that “the current state of the economy prevents me from working in the job I want” was the structural constraints item that scored the most agreement from participants (score < 4, $n = 7$). Although three of these participants indicated that the jobs they would like to pursue existed in their area. Each of these three participants had extensive experience in agriculture (> 10 years) so perhaps it is possible that their desired job was still in agriculture but potentially these positions were already filled or other farm businesses were not hiring for more experienced positions due to economic forces. This interpretation of the results would be supported by the overall structural constraints scores, in that 8 out of the 10 cotton industry participants who perceived the most structural constraints to their work volition (scores < 5) were either in the assistant manager or farm manager categories.

The structural constraints mean for the cotton industry ($M = 5.60, SD = 1.31$) was significantly higher than the mean for other agricultural industries ($M = 4.04, SD = 1.39$; $t(169) = 5.61, p < .0007$). However, the comparison of means for citizens, permanent residents and 457 visa holders across the two samples revealed no differences between the cotton industry sample ($n = 27$) and the other agricultural industry sample ($n = 29$; $t(54) = 1.63, p = .11$).
Perceived Employer Support

Figure 6. Histogram of Perceived Employer Support for cotton industry workers (N = 28)

For the cotton industry sample, the overall scores for perceived employer support ranged from 1.88 to 7.00\(^6\). Twenty-four of the participants indicated the presence of employer support at work (mean score > 4), with 65% of the cotton industry employees scoring items on average above slightly agree (scores > 5, n = 18). Only four participants indicated an overall absence of employer support (mean score < 4).

At the item level “my employer values my contribution to the wellbeing of the farm” (item 1) and “my employer cares about my general satisfaction at work” (item 6) were the items that best captured perceptions of supportive employers (Item 1: strongly agree/agree, n = 18, strongly disagree/disagree, n = 1; Item 6: strongly agree/agree, n = 17, strongly disagree/disagree, n = 1). While the items “my employer fails to appreciate any extra effort from me” (item 2) and “my employer really cares about my wellbeing” (item 4) captured less positive appraisals from some of the participants (Item 2: strongly agree/agree, n = 5, strongly disagree/disagree, n = 12; Item 4: strongly agree/agree, n = 15, strongly disagree/disagree, n = 6). While there appears to be a potential difference between

\(^6\) Overall scores for Perceived Employer Support are traditionally the sum of scores for each item on the Perceived Employer Support Scale – 8 item. For easier visual interpretation, these overall scores have been divided by the number of items on the scale. Therefore, Perceived Employer Support scores represented above are each participants average score across the items and can range from (1) strongly disagree to (7) strongly agree. Scores greater than 4 indicate agreement or presence of perceived employer support, scores equal to 4 indicate neither agree nor disagree or neutral position, scores less than 4 indicate disagreement or absence of perceived employer support.
occupational group for mean scores on perceived employer support, these differences were not statistically significant.

The perceived employer support mean for the cotton industry ($M = 5.36, SD = 1.40$) was significantly higher than the mean for other agricultural industries ($M = 4.71, SD = 1.16; t(139) = 2.54, p = .012$). However, the comparison of means for citizens, permanent residents and 457 visa holders across the two samples revealed no differences between the cotton industry sample ($n = 25$) and the other agricultural industry sample ($n = 29; t(52) = .58, p = .57$).

### Crop Farm Worker Self-efficacy

For the cotton industry sample, the overall self-efficacy scores ranged from 0.8 to 5.00° ($n = 29$). Participants were given the option to choose “not applicable” for a task if they felt it was not relevant. For example, the first task “repair and maintain farm vehicles, implements and mechanical equipment”, three agronomists rated this item as “not applicable”. The number of tasks deemed relevant for the workers was an influencing factor on their final overall score ($r = .76, p < .01$). To illustrate this effect, consider the irrigation worker who only responded to the two tasks that were relevant for their job. Even though he rated himself as very confident for both tasks, his overall score for crop farm work self-efficacy was 0.8. Overall self-

° Overall scores for Crop Farm Worker Self-Efficacy are traditionally the sum of scores for each item on the Crop Farm Worker Self-Efficacy Scale – 10 item. For easier visual interpretation, these overall scores have been divided by the number of items on the scale. Therefore, Crop Farm Worker Self-Efficacy scores represented above are each participant’s average score across the items and can range from (1) no confidence to (5) complete confidence.
efficacy scores were related to the years of overall agricultural work experience the participants had ($r = .39$, $p < .05$), which is to be expected as with more experience, the more tasks workers would learn and thus the more proficient and confident they would become at these tasks.

The crop farm worker self-efficacy mean for the cotton industry ($M = 3.60$, $SD = 1.08$) was significantly higher than the mean for other agricultural industries ($M = 2.17$, $SD = 1.34$; $t(154) = 5.32$, $p < .0007$). The comparison of means for citizens, permanent residents and 457 visa holders across the two samples revealed this trend was consistent between the cotton industry sample ($n = 26$) and the other agricultural industry sample ($n = 29$; $t(53) = 3.99$, $p < .0007$).

**Farming Values Congruence**

**Economic Values Congruence**

![Figure 8. Histogram of Economic Values Congruence for cotton industry workers ($N = 29$)](image)

Cotton industry workers’ identification with farming economic values ranged from 2.00 to 4.75$^8$ ($n = 29$). Just under 75% of participants indicated some identification with these values (mean score > 3), but these were mainly grouped within the slightly agree range, with only 24% of participant average scores falling between 8.00 and 5.00.

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$^8$ Overall scores for farming economic values congruence are traditionally the sum of scores for each item on the economic values subscale - 4 item. For easier visual interpretation, these overall scores have been divided by the number of items on the scale. Therefore, economic values congruence scores represented above are each participants average score across the items and can range from (1) strongly disagree to (5) strongly agree. Scores greater than 3 indicate agreement or presence of economic values congruence, scores equal to 3 indicate neither agree nor disagree or neutral position, scores less than 3 indicate disagreement or absence of economic values congruence.
agree and strongly disagree (between 4 and 5). Five participant average scores fell in the slightly disagree range indicating they did not identify with the economic values that underpin farming operations, and three participants were neutral, on average neither agreeing nor disagreeing with the values statements.

The item with which most participants indicated agreement was “I view the farm first and foremost as a business enterprise” (score > 3, n = 22). The two participants who disagreed with this item were both farm hands. From the interviews it is known that growers may purposely avoid discussing the business aspect of farming to keep workers focused on their job of growing a good crop. As one grower stated “I don’t want to burden the employees with the financial load of obviously the farming business, I want to get their mindset in that they want to produce the highest yield … and as soon as you start thinking of a financial burden, I know they would probably start cutting corners.” Whereas those employees in managerial positions are expected to manage the production inputs to some extent and will therefore be more aware of the economic values that inform the farm business.

The economic values congruence mean for the cotton industry (M = 3.44, SD = .66) was not significantly higher than the mean for other agricultural industries (M = 3.27, SD = .71; t(149) = 1.17, p = .245). The comparison of means for citizens, permanent residents and 457 visa holders across the two samples revealed this was consistent between the cotton industry sample (n = 26) and the other agricultural industry sample (n = 29; t(53) = .42, p = .68).

**Lifestyle Values Congruence**

![Histogram of Lifestyle Values Congruence for cotton industry workers (N = 29)](image)

*Figure 9. Histogram of Lifestyle Values Congruence for cotton industry workers (N = 29)*
Cotton industry workers’ lifestyle values congruence scores ranged from 1.60 to 5.00. More than 90% \((n = 27)\) of participants reported some level of identification with the lifestyle values that are associated with farming, with just under 70% \((n = 20)\) of participants’ average scores between agree (4) and strongly agree (5). There were only two participants who did not identify with the farming lifestyle values, one of these was a 417-visa holder employed specifically as an irrigation worker, the other worked as a mechanic on a farm and had particularly low levels of work volition. Consequently, we may assume both of these workers are employed in jobs that are not their ideal or the best fit for them. Supporting this conclusion, these two workers had the lowest job satisfaction scores for the sample of cotton industry workers.

The three items that participants most frequently agreed were important included “The lifestyle that comes with being on the farm is very important to me” (agreed to strongly agreed, \(n = 26\)), “Farming communities are a great place to live” (agreed to strongly agreed, \(n = 26\)), and “A rural environment is a great place to raise children” (agreed to strongly agreed, \(n = 25\)). There was no relationship between age or the number of years in agriculture and the identification with farming lifestyle values, indicating that these values are important (or not important) to cotton industry workers no matter how young or old, or how long they have worked in agriculture.

The lifestyle values congruence mean for the cotton industry \((M = 4.14, SD = .76)\) was significantly higher than the mean for other agricultural industries \((M = 3.74, SD = .66; t(149) = 2.82, p = .006)\). However, the comparison of means for citizens, permanent residents and 457 visa holders across the two samples revealed no differences between the cotton industry sample \((n = 26)\) and the other agricultural industry sample \((n = 29; t(53) = 1.54, p = .13)\).

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\(^9\) Overall scores for farming lifestyle values congruence are traditionally the sum of scores for each item on the lifestyle values subscale - 5 item. For easier visual interpretation, these overall scores have been divided by the number of items on the scale. Therefore, lifestyle values congruence scores represented above are each participants average score across the items and can range from (1) strongly disagree to (5) strongly agree. Scores greater than 3 indicate agreement or presence of lifestyle values congruence, scores equal to 3 indicate neither agree nor disagree or neutral position, scores less than 3 indicate disagreement or absence of lifestyle values congruence.
Figure 10. Histogram of Conservation Values Congruence for cotton industry workers (N = 29)

Cotton industry workers’ conservation values congruence scores ranged from 2.60 to 5.00\(^{10}\). More than 95% (n = 28) of participants reported some identification with the conservation values that underpin farming, with just under 70% (n = 20) of participant average scores between agree (4) and strongly agree (5). The only participant who reported no identification with conservation values (average score < 3) was the 417-visa holder employed as an irrigation worker. Although this may not be their ideal job, it was concerning to see that this participant strongly disagreed that “they like to look after the land, making it work for the farm, without destroying it”, as even irrigating is a task that must be done with some care to optimise the production of cotton. In contrast, all other participants rated this item as agree or strongly agree which demonstrates a congruence between their personal beliefs and the values that underpin sustainable farming practices.

The item with which the participant scores most closely clustered around a neutral position was “Good land management by farmers is more important than anything else about farming” (M = 3.66, SD = .67). Unlike other items, this attracted a

\(^{10}\) Overall scores for farming conservation values congruence are traditionally the sum of scores for each item on the conservation values subscale - 5 item. For easier visual interpretation, these overall scores have been divided by the number of items on the scale. Therefore, conservation values congruence scores represented above are each participants average score across the items and can range from (1) strongly disagree to (5) strongly agree. Scores greater than 3 indicate agreement or presence of conservation values congruence, scores equal to 3 indicate neither agree nor disagree or neutral position, scores less than 3 indicate disagreement or absence of conservation values congruence.
noticeable number of responses indicating neither agree nor disagree \((n = 10)\). This perhaps demonstrates a pragmatism when it comes to prioritising goals on farm, in that while conservation is important it is not more or less important than other economical or lifestyle driven aspects of cotton farming.

The conservation values congruence mean for the cotton industry \((M = 4.17, SD = .52)\) was not significantly higher than the mean for other agricultural industries \((M = 4.02, SD = .61; t(149) = 1.21, p = .228)\). The comparison of means for citizens, permanent residents and 457 visa holders across the two samples revealed this result was consistent between the cotton industry sample \((n = 26)\) and the other agricultural industry sample \((n = 29; t(53) = .53, p = .60)\).

### Affective Wellbeing at Work

#### Anxiety-Contentment

![Histogram of Anxiety-Contentment for cotton industry workers \((N = 28)\)](image)

Cotton industry workers scores for anxiety-contentment ranged from 2.17 to 6.00\(^{11}\). Just under 80\% \((n = 22)\) of the participants reported average scores in the contentment end of the anxiety-contentment continuum \((\text{mean score} \geq 3.5)\). This was likely to be characterised by more frequent absences of negative emotions such as feeling tense \((\text{scores} \geq 4, n = 25)\), uneasy \((\text{scores} \geq 4, n = 27)\), and worried \((\text{scores} \geq 4, n = 24)\), as opposed to more frequent experiences of positive

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\(^{11}\) Overall scores for anxiety-contentment are traditionally the sum of scores for each item on the anxiety-contentment subscale - 6 item. The frequency of positive emotion items are rated on a scale from (1) never to (6) all of the time. Negative emotion items are reverse scored such that (1) indicates all of the time and (6) indicated never. For easier visual interpretation, these overall scores have been divided by the number of items on the scale. Therefore, anxiety-contentment scores represented above are each participants average score across the items and can range from (1) never contentment, all of the time anxiety to (6) all of the time contentment, never anxiety.
emotions such as feeling calm (scores $\geq 4$, $n = 19$), contented (scores $\geq 4$, $n = 18$), and relaxed (scores $\geq 4$, $n = 17$).

The three participants who indicated greater incidence of negative emotions and lower incidence of positive emotions along the anxiety-contentment continuum (mean score $\leq 3$) were a farm supervisor/manager, an on-farm agronomist, and a machinery operator. Commonalities amongst the response patterns for these three participants were that they reported only occasionally feeling contented and relaxed and feeling worried much of the time.

The anxiety-contentment mean for the cotton industry ($M = 4.32$, $SD = .90$) was not significantly higher than the mean for other agricultural industries ($M = 4.03$, $SD = .88$; $t(136) = 1.53$, $p = .128$). The comparison of means for citizens, permanent residents and 457 visa holders across the two samples revealed this result was consistent between the cotton industry sample ($n = 25$) and the other agricultural industry sample ($n = 29$; $t(52) = -.18$, $p = .86$).

**Depression-Enthusiasm**

![Histogram of Depression-Enthusiasm for cotton industry workers ($N = 28$)](image)

All cotton industry participants ($n = 28$) reported average scores in the enthusiasm end of the depression-enthusiasm continuum (mean score $\geq 3.5$) ranging from 3.50 to 5.83. These responses were characterised by an absence of negative

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12 Overall scores for depression-enthusiasm are traditionally the sum of scores for each item on the depression-enthusiasm subscale - 6 item. The frequency of positive emotion items are rated on a scale from (1) never to (6) all of the time. Negative emotion items are reverse scored such that (1) indicates all of the time and (6) indicated never. For easier visual interpretation, these overall scores have been divided by the number of items on the scale. Therefore, depression-enthusiasm scores represented above are each participants average score across the items and can range from (1) never enthusiasm, all of the time depression to (6) all of the time enthusiasm, never depression.
emotions such as feeling depressed, gloomy, and miserable, with approximately 40% \((n = 11)\) of participants stating that they experienced these emotions at work only occasionally, and 50% \((n = 14-16)\) of participants reporting they never experience these emotions at work. More variation was reported for positive emotions such as feeling cheerful, enthusiastic, and optimistic. Approximately 32% \((n = 9)\) of participants reported more frequent absences of these emotions, experiencing them only some of the time, occasionally, and for one person, never. While the remaining 68% \((n = 19)\) of participants reported experiencing these emotions much of the time, most of the time, or all of the time.

The depression-enthusiasm mean for the cotton industry \((M = 4.74, SD = .66)\) was not significantly higher than the mean for other agricultural industries \((M = 4.47, SD = .97; t(136) = 1.43, p = .154)\). The comparison of means for citizens, permanent residents and 457 visa holders across the two samples revealed this result was consistent between the cotton industry sample \((n = 25)\) and the other agricultural industry sample \((n = 29; t(52) = -.16, p = .88)\).

**Meaning at work**

![Histogram of Meaning at Work for Cotton Industry Workers](image)

**Figure 13.** Histogram of Meaning at Work for Cotton Industry Workers \((N = 28)\)

Cotton industry workers scores for meaning at work ranged from 2.50 to 5.83. Approximately 80% of cotton industry participants reported average scores that reflected greater incidences of positive feelings associated with a sense of meaning at work \((\text{average scores } \geq 3.5, n = 23)\). The remaining five participants who had

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13 Overall scores for meaning at work are traditionally the sum of scores for each item on the meaning at work subscale - 6 item. The frequency of positive emotion items are rated on a scale from (1) never to (6) all of the time. Negative emotion items are reverse scored such that (1) indicates all of the time and (6) indicated never. For easier visual interpretation, these overall scores have been divided by the number of items on the scale. Therefore, meaning at work scores represented above are each participants average score across the items and can range from (1) never meaningful, all of the time irrelevant to (6) all of the time meaningful, never irrelevant.
average scores between 3.0 and 3.5 which indicates only slightly more negative feelings and absence of positive emotions on this continuum were an owner, a farm manager, a supervisor, a machinery operator, a farm hand, and an agronomist, demonstrating that job position had no relationship to self-reported experiences of meaning at work.

Cotton industry workers had a largely positive response to incidences of feeling irrelevant, with all except two participants reporting that they never, occasionally or only some of the time experience this emotion at work. Just under 70% of participants \((n = 19)\), and approximately 60% of participants \((n = 17)\) reported respectively feeling purpose and fulfilled at work much of the time, most of the time, or all of the time. Responses to feeling meaningful and valuable were mixed with only just over 50% of participants reporting experiencing this emotion much of the time, most of the time, or all of the time.

The meaning at work mean for the cotton industry \((M = 4.18, SD = .84)\) was not significantly higher than the mean for other agricultural industries \((M = 3.88, SD = .90; t(136) = 1.61, p = .110)\). The comparison of means for citizens, permanent residents and 457 visa holders across the two samples revealed this result was consistent between the cotton industry sample \((n = 25)\) and the other agricultural industry sample \((n = 29; t(52) = .67, p = .51)\).

**Work Engagement**

![Histogram of Work Engagement for cotton industry workers (N = 28)](image)

*Figure 14. Histogram of Work Engagement for cotton industry workers (N = 28)*
Cotton industry workers work engagement scores ranged from 3.67 to 6.78\textsuperscript{14}. Over 90\% of cotton industry workers reported average work engagement scores that indicated a greater incidence of feeling engaged at work as opposed to not engaged (mean scores > 4, n = 26). It is promising to see approximately 65\% of workers reporting average scores that indicate they often, very often, or always feel engaged at work (mean scores > 5, n = 18). The two participants whose average scores would suggest lower levels of work engagement (mean scores < 4) both reported never or rarely feeling that their job inspired them, and rarely experiencing being immersed in their work. It is interesting to note that these workers were employed as an irrigation worker and a machinery operator, jobs which require the performance of repetitive tasks. In contrast, other entry level workers employed as farm hands who reported higher average levels of work engagement may perform repetitive tasks at times, but also are tasked with other duties, giving them more variety in the work performed.

In terms of understanding work engagement in the farm context, this is more likely to be reflected in reports of feeling dedicated at work as opposed to feeling vigorous. The dedication aspect of work engagement was most strongly represented in this sample of cotton industry workers, with over 95\% (n = 27) reporting they often, very often or always felt proud of their work, just under 80\% (n = 22) reporting they often, very often or always felt enthusiastic about their job, and 75\% (n = 21) reporting they often, very often, or always felt their job inspired them. The vigour items were more mixed, with just under 30\% (n = 8) of workers reporting they almost never or only sometimes felt bursting with energy at work or felt like going to work when they got up in the morning and just over 40\% (n = 12) of workers reporting they only sometimes felt strong and vigourous at work. This is not necessarily surprising given the potential early morning starts or work hours required during peak periods and the physical nature of working on farm. Similarly, absorption at work may not necessarily be well captured by some of the items measured. That just under 50\% (n = 13) of workers reported only rarely or sometimes feeling “carried away” when working might be indicative of the fact that deliberate attention needs to be paid to the performance of certain tasks and “going gung-ho and not looking back”, as described by a farm hand, can be detrimental to performing tasks to the standard required.

The work engagement mean for the cotton industry (\(M = 5.26, SD = .74\)) was not significantly higher than the mean for other agricultural industries (\(M = 4.91, SD = 1.02\); \(t(144) = 1.71, p = .088\)). The comparison of means for citizens, permanent residents and 457 visa holders across the two samples revealed this result was consistent between the cotton industry sample (n = 25) and the other agricultural industry sample (n = 29; \(t(52) = .05, p = .71\)).

\textsuperscript{14} Overall scores for work engagement are traditionally the sum of scores for each item on the UWES-9 item. For easier visual interpretation, these overall scores have been divided by the number of items on the scale. Therefore, work engagement scores represented above are each participants average score across the items and can range from (1) never engaged to (7) always engaged. Scores equal to (4) are the mid-point and indicate sometimes engaged.
Figure 15. Histogram of Job Satisfaction for cotton industry workers (N = 28)

Cotton industry workers job satisfaction scores ranged from 3.40 to 7.00\textsuperscript{15}. Over 90% of participants on average scored favourably on overall job satisfaction (n = 26), with approximately 15% (n = 4) reporting average scores between neutral (4) and slightly agree (5), 25% (n = 7) of participants reporting average scores between slightly agree (5) and agree (6), and just over 50% (n = 15) of participants reporting average scores between agree (6) and strongly agree (7). The two people who reported on average poor job satisfaction (mean scores < 4) were the irrigation worker and the farm mechanic. Previously in the section on lifestyle values it was noted that these participants are potentially in jobs that are not their ideal or are a poor fit for them based on the pattern of scores reported for other variables that predict job satisfaction. For the irrigation worker, a lack a job satisfaction was linked to a lack of enthusiasm and enjoyment in the work. For the mechanic it was more that they felt their days would never end, and considered their job unpleasant, which means a lack of job satisfaction might be less to do with work tasks, than the actual workplace environment.

There was no relationship between the type of job and job satisfaction. The participants who reported the highest averages scores (mean score > 6) consisted

\textsuperscript{15} Negatively worded items on the Job Satisfaction Scale -5 item are reverse scored. Overall scores for Job Satisfaction are traditionally the sum of scores for each item on the Job Satisfaction Scale – 5 item. For easier visual interpretation, these overall scores have been divided by the number of items on the scale. Therefore, job satisfaction scores represented above are each participants average score across the items and can range from (1) strongly disagree to (7) strongly agree. Scores greater than 4 indicate agreement or presence of job satisfaction, scores equal to 4 indicate neither agree nor disagree or neutral position, scores less than 4 indicate disagreement or absence of job satisfaction.
of a farm manager (n = 1), assistant managers (n = 3), a spray rig operations manager (n = 1), assistant to the second in charge (n = 1), farm hands (n = 5), agronomists (n = 3), and a cleaner at a cotton gin (n = 1).

The job satisfaction mean for the cotton industry (M = 5.69, SD = 1.00) was significantly higher than the mean for other agricultural industries (M = 4.75, SD = 1.17; t(144) = 3.96, p < .0007). However, the comparison of means for citizens, permanent residents and 457 visa holders across the two samples revealed no differences between the cotton industry sample (n = 25) and the other agricultural industry sample (n = 29; t(52) = .58, p = .57).
Relationships between variables for the cotton industry

The relationship between each construct of interest for the cotton industry sample has been analysed. Pearson correlation co-efficients are presented in the table below with all statistically significant results highlighted in bold. General trends for the constructs of interest are explored and potential explanations for outliers are offered to understand cases that are exceptions to these trends.

Table 2. Correlations between all variables for the cotton industry (N = 28)

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<th>SC</th>
<th>PES</th>
<th>FWSE</th>
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*p < .05, **p < .01
**Proactive Personality**

Proactive personality was correlated with anxiety-contentment scores and job satisfaction scores, such that the more proactive participants perceived themselves, the less anxious and more content they were at work and the more satisfied they were with their jobs. In particular, reporting that if they saw something they did not like they fixed it, and they were always looking for better ways to do things was related to less frequently feeling uneasy or worried at work. A tendency to be proactive and approach problems as challenges may be an adaptive way that workers reduce anxiety and maintain a sense of calm when working on farm.

Proactive personality may relate to job satisfaction for farm workers as those who excel at identifying opportunities would be less likely to settle in a job they do not find satisfying and seek out work that they can enjoy. This explanation is supported by the data, as one of the least proactive participants (proactive personality = 4.67), a farm mechanic, is also one of the least satisfied (job satisfaction = 3.40) not because he dislikes his job (he strongly agreed he was enthusiastic about his work) but because he dislikes his work conditions, feeling like his day at work will never end. Alternatively, one of the most proactive participants (proactive personality = 7.00), an assistant farm manager, who also reported high levels of job satisfaction (job satisfaction = 6.20) explained that he had actively sought out his current employment to further his career even though this required him to move away from his partner. If he had been less proactively inclined, he may not have had the drive to seek work further afield and settled for less satisfying work closer to home.

From the interview data, it was apparent that farm workers and growers linked the idea of a worker’s tendency to be proactive with being engaged at work. Given the strong relationship between work engagement and job satisfaction, and the relationship between proactive personality and job satisfaction, it was surprising to see no relationship between proactive personality and overall work engagement. A closer inspection at the item level revealed only two significant correlations out of a potential 54 relationships. These were between “if I see something I don’t like I fix it” with “I feel immersed in my work” (r = .38, p = .04, n = 28) and “I am always looking for better ways to do things” with “when I get up in the morning, I feel like going to work” (r = .45, p = .02, n =28). Clearly there are other influencing factors that are essential to take a proactive worker and turn them into a productive, engaged worker on farm.

**Work Volition**

Different aspects of work volition were positively correlated with lifestyle values, meaning at work, work engagement and job satisfaction. This may indicate that people who feel they have more capacity to choose the work they do, and that do not feel limited by their finances or other structural constraints consequently choose work that feels meaningful and that they want to dedicate effort when engaged in performing this work. Furthermore, they choose work that can give
them the kind of lifestyle they prefer and that is personally satisfying. If a consequence of high work volition is a better chance of person-job fit, then we would expect to see a relationship between volition and conservation values congruence. This was not the case for all participants. A closer look at the data revealed three outliers that seemed to obscure this general trend. One was the farm mechanic who, as reported in the previous section, seemed to enjoy his work, but not his work conditions, who reported low levels of volition but high identification with conservation values congruence. Interestingly the other two outliers who reported lower than expected volition given their high conservation values congruence scores were both people who were either owners, part-owners, or related to the owner of the farm where they currently worked. It is understandable that a family farm situation may limit perceptions of volition as these workers could feel obligated to contribute to the continued success of this business as opposed to being able to pursue work elsewhere. When these exceptions were removed it was apparent that for the majority of participants’ volition was related to conservation values congruence further supporting the theory that work volition is related to better person-job fit \( r = .40, p = .04, n = 26 \).

### Perceived Employer Support

Perceived employer support was significantly correlated with all wellbeing at work subscales and job satisfaction scores. The more that workers felt that their employer valued their contributions and were concerned for their wellbeing, the more frequently they experienced feelings of contentment, enthusiasm, and a sense of purpose at work, and less frequently felt trivial or irrelevant. Care and concern for the wellbeing of workers was particularly associated with participant’s disagreement with the statement “I consider my job to be rather unpleasant” whereas an employer’s appreciation for extra effort and perceptions that employers cared about their satisfaction was related to worker’s actual reports of job satisfaction.

It was interesting to see no statistically significant relationship between overall perceived employer support and work engagement for the complete cotton industry sample \( r = .35, p = .072, n = 28 \). From the literature we would expect high perceptions that one is valued at work, and employers care for their wellbeing leads to more dedication and engagement at work. A closer inspection revealed a few cases that did not fit the pattern of data for the rest of the cotton industry sample. Two of these cases showed that reported perceived employer support was low \((2.25, 1.88)\), and yet work engagement was still quite high \((4.78, 5.67)\). These workers were a supervisor and a manager. Both had considerable experience in agriculture (supervisor > 10 years, manager > 20 years) and they had both been with their employers for approximately 5 years. These workers also reported some of the lowest work volition scores (volition scores= 4, 4.25; structural constraints = 4, 3.25) indicating in particular they perceive constraints limit their career choices. The supervisor reported moderately high conservation values congruence which indicates a commitment to working the land in a sustainable manner. This
may be a key motivating force that is keeping him engaged at work, even when feeling anxious (anxiety-contentment score = 2.25), a lack of meaning (meaning score = 2.5) and not feeling particularly satisfied with his job (job satisfaction score = 4.2). Whereas the manager was very satisfied with his job (job satisfaction score = 6.4) and his work engagement was particularly influenced by feelings of enthusiasm for his work, taking pride in his work, and enjoyment of working intensely. It is possible the opportunity to manage a farm is more important to him (given his perceptions of limited work opportunities indicated by the structural constraints scores) than who he works for, and due to his extensive experience (more than 20 years in agriculture) he does not require the support that younger less experienced workers may need to be motivated at work.

At the other end of the spectrum there was one participant who reported very high perceived organisational support (7) but lower than expected work engagement (4.89) given his positive appraisal for his employer. This was a 457-visa holder working as a farm hand who had less than 5 years’ experience in agriculture and had been with his current employer for more than one year. This respondent’s neutral position for many of the vigour items reduced their overall work engagement score. He slightly agreed with statements indicating enthusiasm for his job and strongly agreed that he was proud of the work that he does. He also reported overall agreement with the lifestyle values statements, in particular strong agreement that farming communities are a great place to live, and agreed with the conservation values statements. Perhaps this is one example of a person who could be susceptible to experiencing burnout (characterised by a lack of energy not a lack of enthusiasm for his job) due to the physical demands of the job, but the support of his employers is keeping him engaged at work, even if this may not be high levels of engagement.

When these three cases are removed as outliers, the relationship between perceived employer support and work engagement is moderately correlated (r = .47, p = .02, n = 26), suggesting that for the majority of participants these are related factors, and perceived employer support is potentially an important influence on work engagement.

**Crop Farm Worker Self-Efficacy**

The relationship between crop farm worker self-efficacy and farming values shows the more confident workers on farm become the more they understand and care about why doing their job properly and to the best of their ability is important.

Crop Farm Worker Self-efficacy was related to conservation values congruence such that the more confident a participant was that they could perform a wide range of tasks, the more they identified with values that underpin sustainable farming practices, in particular the items that “Managing environmental problems on farm should be a very high priority” and “I like to look after the land making it work for the farm without destroying it”.

Again a few outliers, while not reducing the statistical significance of this connection, reduce the strength of this relationship and may offer some further
insight into the nature of the link between these two variables. A farm manager with extensive experience in agriculture (>20 years) reported the highest self-efficacy scores of all participants (mean self-efficacy score = 5.00) and yet reported a much lower conservation values score than expected (mean conservation values score = 3.6, which was the third lowest score of the sample). Closer inspection of his responses on the conservation values scale revealed that he had a neutral response to two items “The most important thing is leaving the property in better shape than when I found it” and “Good land management by farmers is more important than anything else”. These two items refer to prioritising conservation practices as “most” or “more important”, and his hesitance to rate these above economic values may actually indicate the pragmatic approach taken in balancing sustainable land management practices with the farm’s financial position. On the opposite side of the relationship between these two variables is a 417-visa holder who rates his identification with conservation values highly (mean score = 4.6) but his self-efficacy for the performance of farm workers tasks quite low (mean score = 2.20). This worker had 4 years past experience in agriculture and was working as a farm hand with his current employer for just over 2 months. His lack of task performance self-efficacy is not unusual and when seeking to understand his high level of identification with conservation values, his open ended feedback given at the end of the survey was telling: “Take care about the environment, otherwise you won’t grow any crops in a few years”. The farming conservation values were clearly personally important and likely informed from his past experiences and knowledge of agriculture.

What these two cases show us are how values as a motivating factor may be important or not important independent of a farm worker’s task self-efficacy. When these cases are removed, we see how for the vast majority of participants these two factors were very much tied together as the relationship between self-efficacy and farming conservation values strengthened and increased in significance (r = .61, p < .01).

**Farming Values**

Lifestyle values congruence was clearly important for cotton industry workers work engagement (a moderately strong correlation, r = .59, p < .01) and even more so for their job satisfaction (a strong correlation, r = .71, p < .01). This demonstrates the need for a holistic view of how work is positioned within people’s lives and the spill-over effect between home and work in how cotton industry worker’s experience job satisfaction. It also perhaps highlights how working in conditions that are congruent with how people like to live are a positive motivational force towards work engagement. This conclusion is drawn from the fact that the lifestyle factor “I enjoy the peace and quiet that comes with farm work” was related to the most number of work engagement items for participants including feeling strong and vigorous, enthusiastic, inspired, happy when working intensely, and being proud of the work that they do.
Farming conservation values congruence showed a moderately strong relationship with the depression-enthusiasm aspect of affective wellbeing at work. In particular, the more a participant agreed with the statement “I like to look after the land, making it work for the farm without destroying it” the more frequently they felt cheerful, enthusiastic, and optimistic at work. This relationship might flow both ways, in that the more you help a worker understand the values that inform sustainable farming, the happier they may be carrying out their work. Alternatively, if growers create a positive work environment that promotes workers wellbeing and they more frequently feel optimistic and enthusiastic, the more workers’ may come to value the importance of looking after natural resources by using sustainable farming approaches and taking care with how they perform their tasks.

**Wellbeing at Work, Work Engagement, and Job Satisfaction**

The high correlation between work engagement and job satisfaction for the cotton industry workers’ is not surprising given that during the interviews it was clear that hard work provided individual’s with a strong sense of satisfaction.

Interestingly, cotton industry workers’ feelings of contentment were not related to their work engagement. Content workers may feel engaged at work, but feelings of anxiety may also be a factor leading to work engagement. The difference is that the anxious-engagement condition is unsustainable. Those farm workers who are motivated to work hard and be engaged at work by a need to manage tension or worry at work are unlikely to feel satisfied with their job. This is evident as an increased frequency of feeling anxious and lower incidences of contentment are linked to lower levels of job satisfaction.

Feeling lower incidences of depressive emotions and more frequently feeling cheerful, optimistic, and enthusiastic at work was associated with cotton industry workers’ increased work engagement and satisfaction with their jobs. Likewise reports that a sense of meaning was experienced at work were associated with cotton industry workers work engagement and job satisfaction. There was one participant who reported less incidences of enthusiasm at work (3.5) and meaningfulness (3.17) which was unusual given their high work engagement (6) and relatively high job satisfaction (5.4). This was a young, on-farm agronomist who had been working in agriculture for less than 5 years. A closer inspection of his other responses revealed a relatively lower score for perceived employer support, in particular this worker reported slight disagreement that his employer took pride in his accomplishments. This lack of appreciation or recognition of his contributions to the farm likely impacts his emotional wellbeing at work. It makes sense that feeling valued by your employer is associated with feeling that your time at work is meaningful, giving you a sense of purpose and increasing your positive outlook and general sense of enthusiasm. While the high work engagement and job satisfaction scores may currently sustain this agronomist’s pursuit of work in the cotton industry, the lower depression-enthusiasm scores and
meaning scores indicate a potential risk factor for retention of this employee which could perhaps be mitigated by increasing his perceived employer support.

The SCCT Model of Farm Worker Job Satisfaction

The SCCT Model of Farm Worker Job Satisfaction was able to predict 69.7% of the variance for farm workers’ job satisfaction. This research clearly demonstrates that the type of person employed on farm and how these workers perceive their work environment, gain support, build confidence in their skills, and feel engaged in their goal-direct activity is vital to their experiences of job satisfaction.

That the data demonstrated good fit to the model is a testament to the strength of the relationships between the constructs tested \((RMSEA < .06, CFI > .95, TLI > .95)\). Unlike the correlations observed in the cotton industry sample, for the full sample of agricultural workers, there was a significant impact of conservation values congruence and proactive personality on work engagement which could be due to the increased power that comes with a larger sample. The results show the utility of social cognitive career theory to investigate career development and job satisfaction in the Australian agriculture context including the cotton industry. Furthermore, the direct and indirect relationships of the model reveal potential areas to target capacity building exercises and interventions to further promote quality careers and job satisfaction for cotton industry workers.

![Figure 16. SCCT Model of Farm Worker Job Satisfaction showing all significant pathways](image)

\[^{16}\text{Given the size of the sample of agricultural workers (N = 156) relative to the parameters of the model, a four item version of the Proactive Personality Scale, a 3-item version of the Job Satisfaction Scale and only the Conservation Values Congruence subscale were used to observe the related SCCT constructs of personality, job satisfaction and values congruence. Work volition and wellbeing at work constructs were excluded from the model.}\]
Recommendations and Future Directions

The cotton industry is proactive. The Cotton Industry On-Farm Workforce Development Strategy which outlines a number of ways research will be used to guide investment into people employed on farm (Cotton Australia & CRDC, 2016). Indeed, attracting and retaining motivated and productive workers on farms is essential to the future sustainability and profitability of the Australian agricultural industry (Commonwealth of Australia, 2015).

Understanding more about cotton farm workers’ experiences of job satisfaction is important to prioritising ways to make the cotton industry an employer-of-choice. The findings of the current research contribute evidence which informs the aims of the Cotton Industry On-Farm Workforce Strategy. The research adapted the Social Cognitive Career Theory Model of Job Satisfaction to the farming context (Lent & Brown, 2008). This model is a blueprint for workforce development.

Proving the relevance of this model of job satisfaction for cotton work is valuable evidence about the malleable psychological factors which can be learned and trained to promote job satisfaction and work engagement for people employed on farms. The proof of the model demonstrated in this research means that it can be used for workforce strategies to improve job satisfaction, work engagement, and, moreover, productivity. Here are some implications of the findings:

- Farm workers’ job satisfaction is key to enhancing farm business productivity as this factor is highly related to work engagement.
- A workplace environment that sends the message that workers are supported and valued will lead to better job satisfaction and work engagement.
- Building farm workers’ confidence in their skills can improve their work engagement as increased perceptions of competence help workers value best practice approaches used in sustainable farming and this leads to increased enthusiasm for their job.
- Workers’ engagement is positively associated with the agricultural lifestyle values of farming and rural life, which are crucial to attracting and retaining workers in the regions.

These implications are expanded on below in considering attraction and retention of workers in the Australian cotton industry and future directions for research.

On Attraction

In the current research, identification with farming conservation values was not linked to work engagement for the cotton industry sample yet it was an important factor associated with work engagement in the full SCCT Model of Job Satisfaction. The full sample used in this model was particularly skewed towards the younger generation, with up to 70% of participants below the age of 30 years old. It has been suggested that among the motivational factors influencing younger generations’ career aspirations, consideration of whether employers operate in a
way that is socially responsible is a key factor in the career decisions made (Deloitte, 2017). Social responsibility can be demonstrated in a number of ways, and includes the management of the environmental impact of business, as well as championing efforts to address climate change and protection of the environment. Therefore, it is important to ensure farms (a) are complying with best practice management recommendations, (b) have strategies in place to responsibly manage their natural resources and ecosystems on the farm, and (c) effectively communicate and demonstrate the value of environment conservation and sustainable farming to employees, in order to attract and motivate the next generation to work on farm in the cotton industry.

Here is a key challenge for agriculture to attract new talent: Many young people in the cities, who could be ideal candidates and find rewarding careers in agriculture, have outdated ideas of what modern farming entails. What farming does, in terms of growing crops, has not changed, but how it is done is increasingly scientific and seeks to work with the environment to sustain the natural resources that are necessary to a farm’s success.

The evidence from the present research supports the continued implementation of career education programs and work experience placements on cotton farms, as it is through these experiences that the expected outcomes that can be gained when working in the cotton industry are communicated to young people. A novel way to bridge the country-city divide and to promote farming careers includes the growers use of social media platforms (such as Instagram) to demonstrate their farming practices and consequently communicate what can be expected from a career in the cotton industry. Highlighting the opportunity that is offered by farming careers for young people to contribute to working with the environment may be motivational in attracting this next generation of workers.

Further research on the next generation of cotton industry workers would help identify other support and motivational factors essential to attracting a diverse range of talented individuals who otherwise may take their desirable skills elsewhere.

On Retention

Growers have attributed a greater retention of staff to investment in skills training. The current research supports this observation and has offered a potential explanation that the confidence of workers in their ability to perform job tasks leads to stronger identification with the intrinsic value of their work (identifying with conservation values). Beyond retaining staff, training may also translate into improvements in worker productivity as evidenced by the indirect effect self-efficacy has demonstrated with work engagement observed in the full SCCT Model of Job Satisfaction. Consequently, there can be an increased enthusiasm for this hard work and a sense of appreciation for the life they can enjoy living in rural communities.
These attitudes and values may also act as personal resources for workers, that help protect their psychological safety and ability to withstand work demands to stay engaged in their current job on farm. It is therefore important that the provision of relevant training courses continues and that growers and farm workers are encouraged to invest and enrol in ongoing skills development. Training that (a) encourages and supports farm workers in their acquisition of skills, (b) demonstrates best practices, (c) allows workers to test their skills and successfully complete new tasks, and (d) feel a sense of accomplishment, promotes the development of farm worker self-efficacy as these training conditions align with the fours sources of self-efficacy (persuasion, observation, past performance experience, and affect).

With regards to day-to-day farming operations, it is apparent that the grower’s management of their workers is important to the workers’ productivity, satisfaction and desire to stay in their current employment. When a worker knows that the supervisor recognises and values their efforts, commitment to the job, and wellbeing, that worker will go the extra mile. This is crucially important if workers are to persist and stay engaged during seasonal peaks when work demands are high, and to mitigate the risk of burnout. To unlock the benefits of hiring proactive people into farming businesses growers must show they (a) value and support these workers, (b) foster their autonomy, and (c) provide genuine opportunities for workers to provide suggestions and feedback. These key approaches to workforce management fit within a number of HR best practice procedures detailed in the MyBMP system.

To date, 210 growers are MyBMP accredited and 78% of all cotton growers engage with the MyBMP system (Cotton Australia, 2018) which makes it an ideal platform to promote adoption of HR management that not only meets the employers’ required obligations but also includes practices that lead to engaged and satisfied workers. Currently, the check list items in the Human Resources and Work Health & Safety module detail outcomes that meet the legal obligations of growers to their workers as well as a number of outcomes that are considered desirable for a best practice cotton farm business. While many checklist items are supported with resources some of these are quite general (i.e. links to the resources provided by Fair Work Australia) and for a number practices that would promote work engagement and job satisfaction, there is an absence of information or resources. A range of practical and effective strategies and corresponding resources that are tailored to the cotton farm context should be provided to growers for all check list items (including the optional Level 3 items). This would ensure growers are supported to build their capacity in up-to-date efficacious HR practices. Ideally with sufficient resources, growers would be well informed and able to choose from a list of options how to successfully implement the recommended HR practices that will ensure the industry cements its position as an ‘employer of choice’.
Future Research

The present research is about ensuring a future workforce needed for cotton. The research provides evidence that can be used to move forward and target important person-centric aspects of what builds a strong, vibrant, progressive cotton industry. Most importantly the research highlights the need for workers to not only become more confident in how they perform their jobs, but also strengthen their connection to why they are important contributors and their standard of work is essential to the outcomes achieved in cotton farm businesses in order to boost motivation and productivity at work. With the current research findings, it is recommended that industry initiatives that encourage career development and skills training are regularly evaluated through longitudinal participant feedback to further refine these as evidence-based programs with demonstrable efficacy to improve work engagement and job satisfaction. It is essential that continued attempts be made by researchers to engage industry-wide encouragement of farm worker/employees to participate in research. This would help to further improve understanding of the strengths, attitudes, values, and structures that foster work engagement for these people. Replication of the current study using a larger, more representative sample would certainly add to the validity and reliability of the findings and the corresponding recommendations.

The cotton industry has also identified that future research is needed (a) to investigate the factors influencing adoption of technologies that boost sustainable farming efforts and improve work conditions, (b) identify the talent that needs to be recruited and (c) the skills that need to be developed to propel the cotton industry forward into the digital agriculture era. Digital agriculture which encompasses work innovations such as using big data, automation and robotics, and the internet of things, is transforming the way we can and need to farm into the future. Certainly reflecting on the current research, it is hoped these technologies will further improve the lifestyle that is possible when employed on farm as this was shown as an important factor for ongoing work engagement and job satisfaction for farm workers. In order to meet these imminent workforce changes, research is already underway in the CRDC-funded project Understanding and planning for the future cotton industry workforce, which aims to better understand what skills will be needed for the future cotton industry and how best to acquire and develop these skills. By investing in research and development associated with the industry’s future workforce, developing grower capacity for implementation of MyBMP HR practices, moving towards evidence-based programs, and prioritising the needs of people who power productivity on-farm, the cotton industry is well placed to maintain and advance its competitive global position in the coming years.
References


Appendix A

Farm Worker Job Satisfaction Survey

The Australian agriculture sector is concerned about attracting and retaining good employees to work on farms. Understanding farm workers' beliefs, values, and feelings about their jobs is important to knowing what is needed to build a satisfying career in the agriculture industry.

If you are currently employed on a farm, regardless of employment status (full-time, part-time, casual, permanent, contract, 3 month seasonal work etc.), this is your chance, to have your say.

Nicola McDonald, a Doctoral Candidate from the University of Southern Queensland (USQ) and her supervisor Associate Professor Peter McIlvene are conducting a survey on the contributing factors of farm worker job satisfaction. This research project is supported by the Cotton Research and Development Corporation (CRDC). This study will explore how the beliefs, values, and feelings that farm workers have about themselves, their jobs, and their workplace, interact to influence their overall sense of wellbeing at work and job satisfaction. Participants are asked to complete the same survey 12 weeks apart. A reminder will be sent to you 12 weeks after completion via email, therefore please ensure your email address has been entered correctly below. In addition, your email will be utilised to match your responses on the two occasions and to enter you in the survey prize draw. It will not be used to identify you personally.

Your participation in this project is entirely voluntary. If you do not wish to take part you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage. Please note, that if you wish to withdraw from the project after you have submitted your responses, the Research Team are unable to remove your data from the project (unless identifiable information has been collected). If you do wish to withdraw from this project, please contact the Research Team (contact details at the bottom of this form). Your decision whether you take part, do not take part, or take part and then withdraw, will in no way impact your current or future relationship with USQ, the CRDC, or your Employment.

All information will be kept strictly confidential, and will only be seen by the researchers listed below and the researcher's academic supervisor team. Any information linking the survey responses to an individual will be deleted and the data will be stored securely in a data bank as per USQ's Research Data Management policy. Your employer will not have access to any of your individual survey responses. The responses of all survey participants will be analysed and the overall trends of the group data will be published in the researcher's PhD thesis, academic journal articles, and reported to the CRDC. These data may be used for future research projects investigating career motivation and job satisfaction in other industries.

The survey will take approximately twenty minutes to complete. Participants who complete the survey will be entered into the draw to win a prize. If you complete the survey at both time one and time two, you will receive two entries. There are two mini i-Pads and three $150 RM Williams vouchers up for grabs. You will be contacted by email if you are one of the winners. There is no time limit, but please try to complete the whole survey in the same session. There are instructions at the top of each section. Read carefully before you begin answering questions in each section, but do not spend too much time on any one.

If you have any questions about the research please do not hesitate to contact the researchers at the numbers listed below. Thank you for your interest in this study.

Nicola McDonald
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Farm Worker Job Satisfaction Survey

Associate Professor Peter McIlveen
Ph.: (07) 4631 2375
peter.mcilveen@usq.edu.au

If you have any concerns or complaints about the ethical conduct of this project you may contact the University of Southern Queensland Ethics Coordinator on (07) 4631 2690 or email ethics@usq.edu.au. The Ethics Co-ordinator is not connected with the research project and can facilitate a resolution to your concern in an unbiased manner. Please quote the Human Research Ethics Approval Number: H15REA012.

By signing below, you are indicating that you:

- Have read and understood the information document regarding this project.
- Have had any questions answered to your satisfaction.
- Understand that if you have any additional questions you can contact the research team.
- Understand that you are free to withdraw at any time, without comment or penalty.
- Understand that you can contact the University of Southern Queensland Ethics Coordinator on (07) 4631 2690 or email ethics@usq.edu.au if you do have any concern or complaint about the ethical conduct of this project.
- Are over 18 years of age
- Agree to participate in the project.

Participant Name

Participant Signature

Date

Email Address
### Farm Worker Job Satisfaction Survey

**Questionnaire One**

Below you will find statements about your choice of job. Please rate each statement, crossing a number from (1) strongly disagree to (7) strongly agree.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Moderately Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 I’ve been able to choose the jobs I have wanted</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1.2 I can do the kind of work I want, despite external barriers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1.3 The current state of the economy prevents me from working in the job I want</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1.4 The jobs I would like to pursue don’t exist in my area</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1.5 Due to my financial situation, I need to take any job I can find</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1.6 When looking for work, I’ll take whatever I can get</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1.7 In order to provide for my family, I often have to take jobs I do not enjoy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1.8 I don’t like my job, but it would be impossible for me to find a new one</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1.9 I feel able to change jobs if I want to</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1.10 The only thing that matters in choosing a job is to make ends meet</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1.11 I feel that outside forces have really limited my work and career options</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1.12 I feel total control over my job choices</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>1.13 Negative factors outside my personal control had a large impact on my current career choice</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
Note. Items 9 and 12 were not used in the final analysis.
Below you will find a list of statements about farm work. Please think about what is important to you. Rate each statement on a scale of (1) strongly disagree to (5) strongly agree.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Dollars and cents is what farming is all about</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.2 View the farm first and foremost as a business enterprise</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.3 When future farming activities are planned, the only focus should be on how profitable they will be</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.4 A maximum annual return from the property is the most important aim</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.5 Money and profit are not the most important things about farming</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.6 The lifestyle that comes with being on the farm is very important to me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.7 Farming communities are a great place to live</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.8 I enjoy the peace and quiet that comes with farming work</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.9 A rural environment is a great place to raise children</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.10 I do not make a fortune from farm work but the lifestyle is great</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.11 Good farmers regularly make land care improvements to their property</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.12 The most important thing is leaving the property in better shape than when I found it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.13 Good land management by farmers is more important than anything else about farming</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.14 Managing environmental problems on the farm is important and should be a very high priority</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3.15 I like to look after the land, making it work for the farm, without destroying it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

*Note.* Item 5 was not included in the final analysis
# Farm Worker Job Satisfaction Survey

**Questionnaire Four**

The following statements are about **how you feel at your work**. Please read each statement carefully and decide if you ever feel this way at your job. If you have never had this feeling, select the '0' (zero) in the space after the statement. If you have had this feeling, indicate how often you feel it by selecting the number from (1) almost never, to (6) always.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Never</th>
<th>Almost Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 At my work I feel bursting with energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4.2 At my job I feel strong and vigorous</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4.3 I am enthusiastic about my job</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4.4 My job inspires me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4.5 When I get up in the morning, I feel like going to work</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4.6 I feel happy when I am working intensely</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4.7 I am proud of the work that I do</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4.8 I am immersed in my work</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4.9 I get carried away when I'm working</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
**Farm Worker Job Satisfaction Survey**

**Questionnaire Five**

Thinking about your **current job**, please rate the following statements from (1) strongly disagree to (7) strongly agree.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Moderately Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 I feel fairly satisfied with my present job</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>5.2 Most days I am enthusiastic about my work</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>5.3 Each day at work seems like it will never end</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>5.4 I find real enjoyment in my work</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>5.5 I consider my job to be rather unpleasant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
## Questionnaire Six

Listed below are statements that represent possible opinions that you may have about working at your current place of employment. Please think about your current workplace and rate each statement on a scale of (1) strongly disagree to (7) strongly agree.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Moderately Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1 My employer values my contribution to the wellbeing of the farm</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6.2 My employer fails to appreciate any extra effort from me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6.3 My employer would ignore any complaint from me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6.4 My employer really cares about my wellbeing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6.5 Even if I did the best job possible, my employer would fail to notice</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6.6 My employer cares about my general satisfaction at work</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6.7 My employer shows very little concern for me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6.8 My employer takes pride in my accomplishments at work</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
**Farm Worker Job Satisfaction Survey**

**Questionnaire Seven**

Thinking about your behaviour in all areas of your life (not just work), please rate the following statements from (1) strongly disagree to (7) strongly agree.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Moderately Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1 I see something I don’t like, I fix it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7.2 No matter what the odds, if I believe in something I will make it happen</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7.3 I love being a champion for my ideas, even against others’ opposition</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7.4 I excel at identifying opportunities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7.5 I am always looking for better ways to do things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7.6 If I believe in an idea, no obstacle will prevent me from making it happen</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
**Farm Worker Job Satisfaction Survey**

**Questionnaire Eight**

Thinking of the past few weeks, how much of the time have you felt each of the following during work? Please indicate how often by selecting the number from (1) never to (6) all of the time.

<table>
<thead>
<tr>
<th>Item</th>
<th>Never</th>
<th>Occasionally</th>
<th>Some of the time</th>
<th>Much of the time</th>
<th>Most of the time</th>
<th>All of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1 Tense</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.2 Uneasy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.3 Worried</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.4 Calm</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.5 Contented</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.6 Relaxed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.7 Depressed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.8 Gloomy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.9 Miserable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.10 Cheerful</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.11 Enthusiastic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.12 Optimistic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.13 Bored</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.14 Meaningful</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.15 Valuable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.16 Purpose</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.17 Irrelevant</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.18 Personally Fulfilled</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.19 Trivial</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

*Note.* Item 13 was not used in the final analysis.
The following are statements about how you see yourself. Please rate the following statements from (1) strongly disagree to (7) strongly agree.

<table>
<thead>
<tr>
<th>I see myself as someone who:</th>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Moderately Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1...is reserved</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9.2...is generally trusting</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9.3...tends to be lazy</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9.4...is relaxed, handles stress well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9.5...has few artistic interests</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9.6...is outgoing, sociable</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9.7...tends to find fault with others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9.8...does a thorough job</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9.9...gets nervous easily</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9.10...has an active imagination</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

*Note.* This scale was not included in the final analysis.
Farm Worker Job Satisfaction Survey

Please provide the following demographic information about yourself:

Age: ______

Gender: ______________

Country of Origin: ______________

What is your first language? ______________

What is your second language? ______________

What is your resident status? (Please circle answer)

   Citizen
   Permanent resident
   417 Visa holder
   457 Visa holder
   Other, please specify: ______________________

What is the highest education level you have obtained? (Please circle answer)

   Grade 10
   Grade 12
   Certificate
   Diploma
   Undergraduate degree
   Post-graduate degree
   Other, please specify: ______________________
Which category most resembles your type of employment? (Please circle answer)

Permanent full time
Permanent part time
Casual
Contract
Other, please specify: ______________________

What position do you hold at your current employment? ______________________

How many years have you worked in the agriculture industry? ______________________

How many years have you been working for your current employer? ______________________

What crops are grown at your current place of employment?
________________________________________________________________________
________________________________________________________________________

What is your current residential postcode? ______________________

Are you an owner, part-owner or related to the owner of the farm where you currently work? (please circle answer)  YES  NO

Is there any further feedback you would like the researchers to know about your job and work situation?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Thank you for your participation.
Appendix B

Technical Notes on the Analysis

Frequencies for each construct are presented and analysis of the pattern of responses for the cotton industry sample is discussed at the item level. Due to the small size of the cotton industry sample it is highly unlikely that these participants are representative of the population of cotton industry workers. This means generalisation of the descriptive statistics reported is not possible. The results should not be interpreted as an indication of the current state of employee engagement or job satisfaction for the Australian cotton industry.

T-tests comparing the means of each construct for those employed in cotton with other agricultural industries have been conducted. While these groups are markedly different in sample size, Levene’s test showed the assumption of equal variances to be met. Corrections to p value cut-offs, using more stringent alpha levels to assess statistical significance (*p < .035, ** p < .0007), have been made to account for the potential increase in type one errors (false positives) that can occur due to multiple testing.

There were very obvious differences between the cotton industry samples and the other agricultural industry sample in terms of the proportions of people in the different residential status categories. The substantial number of people in the other agricultural industry sample who are working on 417, 462 or student visas means that a large proportion of this group consists of workers who are considered temporary workers who are more vulnerable to experience job instability. Job instability, while not measured in the current study, is potentially a lurking variable that may influence participant job attitudes (Sverke, Hellgren, & Naswall, 2002) and may be responsible for differences observed between the other agricultural industry sample and the cotton industry sample. To try and control for this, a comparison of the means for only the participants who are Australian citizens, permanent residents and 457 visa holders in the two samples is reported as well.

Spearman’s rho correlations between the constructs of interest are presented for the sample of cotton industry workers. This non-parametric test was necessary due to the skewed data on a number of the variables and the small sample size. Limits to the generalisability of these results to the overall cotton industry workforce also applies.

The full data set were screened for univariate and multivariate outliers. System missing data on the crop farm worker self-efficacy scale used an auxiliary variable to predict the variance in the corresponding latent construct. The SCCT Model of Job Satisfaction was tested using Structural Equation Modelling (SEM) an analysed using MPlus (Version 8, Muthen & Muthen, 2017). All observed items were treated as ordered categorical variables and a robust diagonal weighted least squares means and variance adjusted (WLSMV) estimation approach was used.
To assess the data-model fit for both the CFA and SEM, three fit statistics are inspected. Absolute fit is assessed using the root mean square error of approximation (RMSEA) including the 90% confidence interval width (90% C.I.). Suggested cutoffs for the RMSEA scores are that less than .05 indicates good fit, less than .08 indicates acceptable fit, and values exceeding .10 are considered unacceptable (Browne & Cudek, 1992; Meyers et al., 2013). The effects of sample size may impact the RMSEA value, such that samples less than N = 200 may result in an inflated score resulting in rejection of an adequate model (Paxton, Hipp, Marquart-Pyatt, & Marquart-Pyatt, 2011). Relative fit is assessed using (a) the comparative fit index (CFI), and (b) the Tucker Lewis index (TLI). The CFI & TLI scores can be assessed as indicating good model fit if they exceed a cut off of 0.95 (Hu & Bentler, 1999). Acceptable fit is indicated by values exceeding 0.90 (Bentler, 1990). Values between .80 and .89 are said to demonstrate adequate but marginal fit, and scores below 0.8 indicate poor fit (Meyers et al., 2013).

For further information on the fit statistics and path weights of the SCCT Model of Farm Worker Job Satisfaction please contact the author.