



# Autism and Agriculture

Evaluation of an Autism Specific Employment Program

## EXECUTIVE SUMMARY

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# Autism and Agriculture

## Evaluation of an Autism Specific Employment Program

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## About the Cooperative Research Centre for Living with Autism (Autism CRC)

The Cooperative Research Centre for Living with Autism (Autism CRC) is the world's first national, cooperative research effort focused on autism. Taking a whole-of-life approach to autism focusing on diagnosis, education and adult life, Autism CRC researchers are working with end-users to provide evidence-based outcomes which can be translated into practical solutions for governments, service providers, education and health professionals, families and people on the autism spectrum.

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# 1. Background

The Autism and Agriculture Program (termed the Program herein) was a world-first initiative of SunPork Farms and the Cooperative Research Centre for Living with Autism (Autism CRC) to employ autistic individuals in piggeries. The Program was developed as a pilot with the aim of evaluation and subsequent modification for utilisation within the agriculture industry.

In conjunction with Specialisterne Australia, the autism-specific Program was developed and trialled in two SunPork piggeries – one in Queensland and one in South Australia. The Program led to the employment of seven autistic employees in Queensland, and nine in South Australia.

The Program consisted of a number of autism-specific elements:

- **Recruitment.** Rather than resume and interview, recruitment comprised of (a) online survey requiring general information such as agricultural experience, and (b) written, pictorial or video submission to provide information, such as why they think they might be suitable for the role.
- **Candidate Selection, Orientation and Training.** Candidate selection, and candidate self-selection, was enabled through orientation and training weeks. A customised orientation process, comprising a virtual/mock piggery at an offsite location and guided piggery tour, provided opportunity for candidates to orientate to the work environment, practices, procedures, and demonstrate skills. Training was then undertaken, involving core skills training followed by job specific training.
- **Workplace Readiness.** ‘Understanding Autism’ training was provided to all SunPork staff.
- **Employee Support.** This included: modified, supported human resource systems to best accommodate new employees; individual support plans; commencement at part time hours; provision of a mentor for each autistic employee; and, workplace and lifestyle support provided by disability service provider agencies, as needed and requested by the employees.

## 2. Aim

The aim of the research was to evaluate the Program in relation to factors that facilitate or limit the successful employment of autistic people in the piggery context.

## 3. Method

### Design

Data were collected through mixed methods. As shown in Figure 1, survey data were obtained from four participant groups at pre-post-employment, and interview/focus group data obtained from three participant groups post-employment.

**Figure 1:** The Research Design

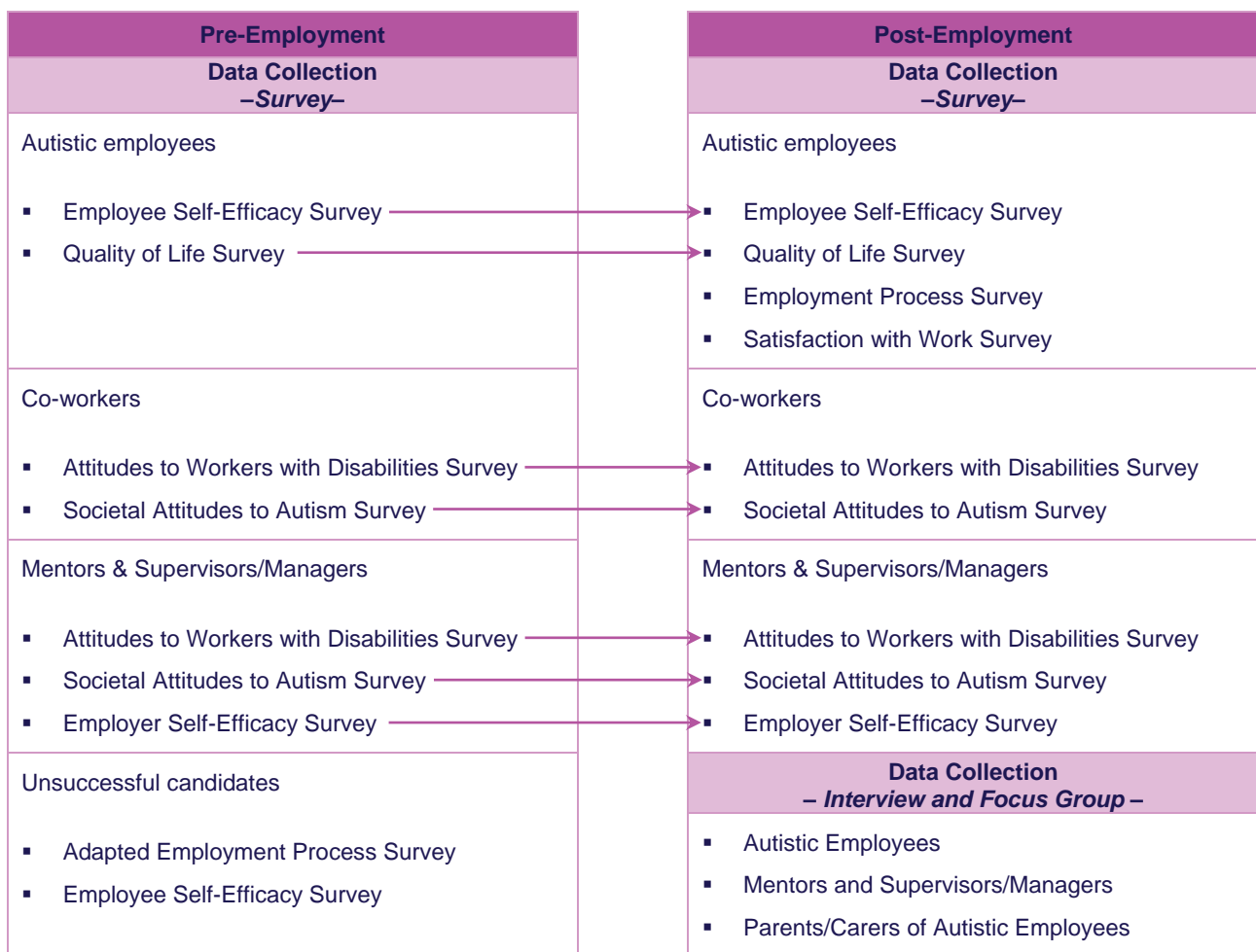


Figure 1 shows pre-post measures illustrated by arrowed lines, and the mode of data collection.

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## Participants

Survey participants were five autistic employees ( $\bar{x}$  age=22.2); 37 co-workers ( $\bar{x}$  age=43.6), being those that worked in the same piggery as the autistic employees; 14 mentors and supervisors of autistic employees ( $\bar{x}$  age=37.1); and, four unsuccessful candidates ( $\bar{x}$  age=22.5) - being autistic candidates who were not offered a position at the piggery sites.

Participants for interview and focus groups were 13 autistic employees; eight families/carers of autistic employees; and, 27 mentors, supervisors and managers of autistic employees.

## Analysis

Analysis of survey data was undertaken using SPSS version 25. NVivo 11 Data Analysis Software Package used for interview and focus group data, with data analysed independently for each of the sites (n=2), and for each stakeholder group (n=3), using direct content analysis procedures.

## Ethical Clearance

Ethical clearance was sought and granted from Curtin University's Office of Research and Development (approval number HRE2016-0199).

# 4. Summary of Results

Summary of results are presented sequentially for each stakeholder group.

## Autistic Employees

Participation in survey ranged from three to five participants, precluding analysis beyond descriptive statistics and designated results as potentially not representative of the stakeholder group. Accordingly, the results were not informative to the conclusions and recommendations. A brief summarisation of key findings from interviews is shown in Table 1 below.

**Table 1:** Autistic Employees - Summary of Enabling and Limiting Aspects

Elements	Enabling Aspects	Limiting Aspects
<b>Recruitment</b>	Provision of options for application completion Removal of interview as part of application process Multiple advertising methods	Necessity for support to complete application
<b>Training and Orientation Weeks</b>	Opportunity to: <ul style="list-style-type: none"> <li>▪ self-assess suitability</li> <li>▪ learn some of the basics of production</li> <li>▪ demonstrate strengths and weaknesses</li> </ul>	Work hour requirements not addressed in training weeks
<b>Mentors</b>	Supportive relationship Teaching of new skills	Communication problems with mentors
<b>Work Environment</b>	Positive atmosphere and experience with colleagues	
<b>Other</b>		Inflexible work schedules e.g. long hours

## Co-Workers, Mentors, Supervisors and Managers

### Survey Data

Analysis of data, with negative scores indicating change to more negative attitude, showed a significant difference in attitudes towards workers with disabilities at pre- and post-employment of the autistic candidates, for (a) co-workers and (b) mentors and supervisors/managers. Total scores indicated co-workers' attitudes were more positive post-employment of the autistic candidates, with mentors' and supervisors' attitudes becoming more negative.

Analysis of the items indicated co-workers adopted a more positive attitude that, with regard to people with disabilities: employers have time and resources to spend on them; the work environment is a place for them; they 'catch on' and follow direction; and, are doing better than anticipated. Further, they indicated more positive attitude that employers should meet the applicant before deciding to work with them, and if something goes wrong it is not necessarily the fault of the employee with a disability.

In contrast, mentor and supervisor data indicated no statistically significant increased positivity in attitude. Rather, this group indicated more strongly at post-employment that employers were concerned about working with the person with a disability after the employment specialist leaves, and that workers with disabilities are not getting the job done.

Data from the Societal Attitudes Towards Autism (SATA) scale, which measures attitudes towards autism, indicated no change in attitude. Similarly, analysis of self-efficacy survey data from mentors and supervisors showed no statistical significant enhancement of self-efficacy elements between pre- and post-employment.

A brief summarisation of key findings from interviews and focus groups is shown in Table 2 below.

**Table 2:** Co-workers, Mentors and Supervisors/Managers - Summary of Enabling and Limiting Aspects

Elements	Enabling Aspects	Limiting Aspects
<b>Candidate Training and Selection</b>	<ul style="list-style-type: none"> <li>Training allowed for:               <ul style="list-style-type: none"> <li>candidate/job match</li> <li>candidate self-assessment of suitability</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Training weeks not sufficient to assess candidate stamina, speed or ability to work</li> <li>Support needs outside of work environment and co-morbid conditions not identified</li> </ul>
<b>Training for Staff</b>	<ul style="list-style-type: none"> <li>Basic knowledge of autism</li> </ul>	<ul style="list-style-type: none"> <li>Format not conducive to questions</li> <li>Brevity and generality</li> <li>Focus on negative aspects and homogenous presentation of autism</li> </ul>
<b>Mentors</b>	<ul style="list-style-type: none"> <li>Positive relationship</li> <li>Realistic expectations of autistic employees</li> <li>Compatibility of mentors-mentees considered</li> <li>Capacity to adapt communication, tasks, training and work instructions</li> </ul>	<ul style="list-style-type: none"> <li>Mentor role and expectations of candidates not sufficiently defined – potentially impacting mentor-mentee relationship</li> <li>Ability to work together not considered</li> <li>Capacity to engage during peak production times</li> </ul>
<b>Work Environment</b>	<ul style="list-style-type: none"> <li>Co-worker attitudes to workers with disabilities</li> <li>Co-worker attitudes to autistic employees</li> </ul>	<ul style="list-style-type: none"> <li>Mentor/supervisor attitudes to workers with disabilities</li> <li>Co-worker attitudes to autistic employees where there was perception of reduced work performance</li> <li>Unpredictability of production</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>Espoused advantages of the Program</li> <li>Support from autism specialists and others at outset of Program</li> </ul>	<ul style="list-style-type: none"> <li>Perceived attitudes of autistic employees</li> <li>Longevity of support provided</li> <li>Ongoing support personnel knowledge of individual autistic employees</li> </ul>

## Unsuccessful Candidates

Surveys were completed by four unsuccessful candidates. Descriptive statistics of employment process and self-efficacy items showed a wide degree of opinion with little to no commonality amongst participants.

## Parents/Carers of Autistic Employees

A brief summarisation of key findings from interviews and focus groups is shown in Table 3 below.



**Table 3:** Interviews with Parents/Carers of Autistic Employees

Elements	Enabling Aspects	Limiting Aspects
<b>Recruitment</b>	<ul style="list-style-type: none"> <li>Process allowed parents/carers to support application completion</li> <li>Removal of interview as part of application process</li> <li>Autism specific recruitment organisation</li> </ul>	<ul style="list-style-type: none"> <li>Communication with recruitment organisation</li> </ul>
<b>Training and Orientation Weeks</b>	<ul style="list-style-type: none"> <li>Job-skills matching</li> <li>Responsiveness to needs/desires and flexibility in placement</li> <li>Allow candidates to 'present' in understanding environment</li> </ul>	<ul style="list-style-type: none"> <li>Individualisation in training</li> </ul>
<b>Selection Process</b>		<ul style="list-style-type: none"> <li>Waiting period between selection and employment commencement</li> <li>Clarity around selection process</li> </ul>
<b>Mentors</b>	<ul style="list-style-type: none"> <li>Supportive relationship</li> </ul>	<ul style="list-style-type: none"> <li>Training regarding autism and working with autistic employees</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>Support for relocation</li> <li>Positive views of the Program</li> </ul>	<ul style="list-style-type: none"> <li>Communication with parents</li> <li>Clarity regarding policy compliance</li> <li>Flexibility with work schedule</li> </ul>

## 5. Key Components and Recommendations

The following have been identified as key components of the Program and suggestions/recommendations for future Program delivery. A number of these components were identified and adopted through the implementation of the Program, with others a result of this evaluation. Collectively, they represent the factors contributing to the successful implementation of such a program.

### Recruitment Process

- Utilising a variety of job advertisement methods is necessary to target both job-seekers and their family and social networks.
- Advertisement via social media should be utilised.
- Job seekers may require assistance to complete the submission requirements. Assistance should be offered to those who may not have support people to provide this.

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- Recruiting a group of autistic employees needs to be carefully considered. While convenient to recruit and train several people at the same time, there is associated stress to workplace personnel and resources.
  - Expectations regarding work hours, or whether this is negotiable, should be clear to job seekers.

## Training

### Autistic employees

- Potential mentors should be included early on in the training of autistic employees.
- The work tempo of the 'actual workplace' should be illustrated clearly within the training weeks or during recruitment.

### Mentor training

- Autistic adults should be involved in the development and presentation of the training.
- Adopt a strengths-based approach when informing about autism, and promote heterogeneous understandings.
- Divide the workshops into several sessions (at least four hours all together).
  - Focus on practical strategies for effective support including: training techniques; adapting to individual's learning style; provision of visual support; communication; social interaction; collaborative problem solving; and, defusing stressful situations.
  - Consider the autistic employees presenting themselves via a recorded audio interview/video/written information - this could add more personal information, and promote autism understanding and individualised practices.

## On-the-Job Training

- Develop an individualised structured 'on-the-job training plan' to benefit the autistic employee and the mentor. This could include the following:
  - Defining the time mentors can set aside for on-the job training – this could decrease the stress for the mentors and the co-workers.
  - Identification of specific work tasks as primary training goals and subsequent evaluation of the progress before deciding on further training goals. These goals could be documented and agreed upon by both employee and mentor, and could

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include increasing the tempo of the work, increasing independence and adding more tasks.

- Expectations related to task learning and completion e.g. discussion of how fast the employee should learn the job and complete tasks.
- Utilisation of visual supports should be explored, preferably in collaboration with an autism expert.

## Mentor/Supervisor Role

- The following suggestions may contribute to clarifying the role of the mentors and enhance their abilities to fulfil this role:
  - Develop a document that clarifies mentor responsibilities and expectations.
  - Allocate time for the on-the-job training.
  - Allocate time for employee/mentor evaluation on a regular basis.
  - Consider allocating two or more mentors to one employee. This allows mentors to take turns in supporting the employee and provide a backup if one mentor is absent.
  - Consider how mentors will receive continuous support. It could be arranged as a combination of: time for mentors to meet, support each other and problem solve; external support from someone experienced in autism (preferably someone that can be on-site and observe in addition to provide support/advice); and, explicit support/recognition from management.
  - Consider establishing an Emergency Contact, someone for mentors to turn to in acute situations.

## Work Description

- Clarification regarding the work role for each individual autistic employee, for example, expectation to specialise in a limited range of tasks. Aspects to be considered include:
  - Defining tasks that the autistic employee is better at than the co-workers, or feel very comfortable doing.
  - Development of a Key Performance Indices (KPI) defining what the autistic employee's work tasks are.
  - Redefining the work descriptions of the co-workers in the team, so that it is clear if they are 'released' from the tasks the autistic employee does.

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## Longevity of Employment

- Consider flexibility in work hours and the fact that full time work is not always the goal for autistic employees.
- Implement work satisfaction evaluations and career development planning recurrently.
- Assess overall workplace knowledge of and attitudes towards autism regularly, and implement continued education.
- Provide support for mentors, and managers/supervisors.

## Independent Living

- If possible, assess support needs for independent living before employees commence.
- If the autistic employee provides consent, establish channels for collaboration between support services responsible for independent living and the employer.
- Identify whether the employer will liaise with parents/carers of autistic employees, and under what conditions/circumstances, and establish consent from the employee.

## 6. Limitations

The current evaluation has several limitations.

1. This is an evaluation of a specific employment program for autistic employees in a specific industry. It can therefore not be generalised to any employment program.
2. Several of the measures used in the current evaluation were not validated or not frequently used in relation to employment and autism.
3. The low survey response rate, especially from autistic employees, resulted in the survey data not contributing to the evaluation in a substantial way.



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