

**THE 2007 ROCK AND WATER PROGRAM:
EVALUATION OF PROGRAM OUTCOMES**

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Reason for Evaluation

The Rock and Water program has been running since 2002 and is an initiative of the Families SA Guardianship and Alternative Care Directorate. From January to May 2007, the report's authors supported the development, delivery and evaluation of the Rock and Water program. This report tables and analyses the evaluation data gathered from the boys' Rock and Water program delivered between January and May 2007. Recommendations related to future program development and delivery are also provided.

General Background

“Rock and Water” is a manual-based program that was developed by the Dutch educationalist, Freerk Ykema (2002; 2003). Ykema initially developed the program for boys aged from 10 to 18 in response to his perception that traditional educational programs were unable to support boys in key aspects of their development. Such areas included: (1) verbal and emotional expression, (2) emotional regulation, (3) self-management of impulse driven tendencies and (4) the ability to respond to and manage aggressive tendencies in both themselves and others.

Ykema (2002; 2003) designed the Rock and Water program upon a psychophysical intervention framework, with a number of existential and transpersonal philosophies built into the program (for detailed overview see Ykema, 2002). In other words, Ykema developed the program to support young people develop body awareness (e.g., the ability to control one's physical state, i.e. breath), which in turn, provides the platform for young people to develop emotional awareness (e.g., as emotions are expressed through the body). The program also provides physical exercises, group activities and role-plays to foster the development of self-awareness (e.g., the ability to link together one's environment, emotions and thoughts). In summary:

“The building-blocks of the Rock and Water program are self-control, self-reflection and self-confidence. Building on to this foundation, it is possible to pay attention to the themes of safety, assertiveness, communication and finding their own way (the inner compass) that connects them to others (solidarity) and gives them direction (spirituality).” (Ykema, 2003, p. 9)

An important component of the Rock and Water program are the symbolic references. For instance, “rock” represents a rigid and uncompromising approach to life, while “water” symbolises flexibility, communication and cooperation. The program teaches the consequences, both positive and negative, of approaching the world in either a “rock” or “water” manner.

The Rock and Water Program and the South Australian Alternative Care System

The Rock and Water Program was first delivered within the South Australian alternative care system in 2002. The program had previously undergone continuous development and evolution as it attempted to match the learning and therapeutic needs of a complex alternative care client group (for a detailed overview of this evolution process see Raymond, 2006). The program had

been delivered for single-sexed groups and alongside a range of outdoor/adventure and experiential activities (e.g., camps, challenging activities).

The first systematic evaluation of the Rock and Water program in Families SA was undertaken in 2005 (Raymond, 2005a; 2005b). This qualitative or descriptive research methodology found that both clients and youth workers reported a range of positive outcomes from the program. A number of key performance indicators provided preliminary support for the efficacy of the program (e.g., high rate of program completion and attendance), however, apart from this, questions remained regarding the generalisability and longevity of the program outcomes.

In response to the methodological shortfalls of the previous evaluation, a subsequent Rock and Water program for male clients was evaluated late in 2005 (Raymond, 2005c). This evaluation included a pretest-posttest evaluation framework, along with a number of qualitative measures. The pretest-posttest measures included previously validated self-esteem and expressive anger scales, as well as an un-validated “violent cognitions” scale. This later scale was developed by the author to measure (1) the young person’s willingness to engage in violence and (2) the young person’s identification with bullies. It also included a rationalisation/neutralisation sub-scale that measured the degree young people rationalise their violence towards others. Within the evaluation all scales exhibited good reliability. The evaluation found no statistically significant differences in the participants’ anger expression or violence-based cognitions over the course of the Rock and Water program. Contrary to the aims of the program, however, participants who attended the program exhibited a statistically significant reduction in self-esteem. While this later result contradicted the purported benefits of the program, the author noted a number of irregularities in the delivery of the psychometric evaluation (Raymond, 2005c). In hindsight, the accurate completion of the self-esteem scale (and to a lesser degree the other scales) required high levels of self-reflective or meta-cognitive capacity, which was unlikely to have been possessed within the participant group.

The Rock and Water program was delivered to both male and female groups in 2006, however, no formal evaluation occurred during this period. To the authors’ knowledge, no evaluation of the Rock and Water program had been conducted for female participant groups. Late in 2006, Raymond (2006) summarised the previous evaluation data and made recommendations regarding future program development and delivery. In summary:

“Within the South Australian congregate care system, the Rock & Water program is seen as a tool that can mutually engage both young people and youth workers in a manner that is conducive to the delivery of a range of positive outcomes. For young people, Rock & Water provides an opportunity to develop self-management and personal control. The program also galvanises youth worker interest and abilities in a manner that has translatable benefits to the young people they service. The opportunity exists for youth workers to work with young people within a ‘proactive’, as opposed to a crisis driven or ‘reactive’ framework. This has important flow-on effects for improving job satisfaction and staff-client relationships, and reducing stress and burnout. The current challenges (and future directions) of Rock and Water delivery within the South Australian congregate care system include:

- *The need to develop an evaluative framework to assess the type, breadth and length of program outcomes...*

- *The generalisability of the program's learning objectives beyond the immediate learning context...*
- *To integrate the Rock & Water program into the current continuum of therapeutic care on offer within the South Australian congregate care system. Consideration is being given to the following:*
 - *Increasing psychological consultation on program development, implementation and training of staff*
 - *Developing specific role plays and activities that target specific therapeutic needs (e.g., self-protective behaviour)*
 - *Utilising Rock & Water as a 'window of opportunity' or 'engagement tool' for appropriately trained individuals to engage young people in more systematic and evidence-based therapeutic provision.” (Raymond, 2006, p. 81).*

In a pilot initiative, the Families SA Guardianship and Alternative Care Psychology Team supported the development, delivery and evaluation of the 2007 Rock and Water program. The psychological support provided was guided by the aforementioned written recommendations (Raymond, 2006). In particular, it had the following goals:

- Professionalising the delivery of the Rock and Water program.
- Increasing the therapeutic gains achieved from the Rock and Water program.
- Strengthening and deepening client-youth worker relationships during the program to support ongoing deeper relationships outside of the formal program.
- Integrating attachment theory (or the importance of client-youth worker relationships) within the Rock and Water program.
- Assessing the therapeutic value of the Rock and Water program and future psychological involvement in the program.
- Developing robust and useful evaluation instruments.

Boys' Rock and Water Program: January-May 2007

The boys' Rock and Water program was delivered to 12 boys (10 completed the program) between January and May, 2007. The program was comprised of three camps, two full-day activities and a number of evening program sessions. A feature of the program was that it placed significant emphasis on the importance of the youth worker-client relationship to augment the program outcomes. The program aimed, wherever possible, for each young person to receive one-on-one support from a consistent adult figure throughout the program. This intensive adult-participant ratio was maintained for the majority of program sessions.

Quantitative Evaluation of Program Outcomes

A pretest-posttest evaluation was conducted to evaluate the effectiveness of the 2007 boys' Rock and Water program. The pre-test was administered by the allocated psychologist to all young people prior to the start of the formal Rock and Water sessions (e.g., during first camp at

Mylor). The post-test was individually administered by youth workers who were not directly allocated to the young people during the closing stages of the final camp.

1. Anger Expression

The expression of anger or aggressive impulses is linked to the construct of emotional regulation. Improved emotional regulation remains a stated goal of the Rock and Water program (Ykema, 2002) and is an important area of intervention for children who have backgrounds of attachment disorder, abuse and trauma (Perry, 2004).

A 12-item Likert scale was utilised to assess the expression of anger (see appendix A). This scale was developed by Mohr et al. (2001) with a youth-at-risk cohort. This scale had previously exhibited good methodological properties (Mohr et al., 2001; Raymond, 2005c). During the current evaluation the scale showed excellent reliability (pre-test $\alpha = .88$, post-test $\alpha = .92$). Paired sampled t-tests indicated that participants who attended the Rock and Water program achieved a small reduction in the expression of anger from the pre-test ($M = 35.22$) to the post-test ($M = 28.39$). However, this result was at a near significant level: $t(8) = 1.64$, $p = .13$, and for this reason, it cannot be ruled out that the result was due to chance or outside variables.

2. Participant-Youth Worker Relationships

A four-item questionnaire was developed to assess the “strength of relationship” between young people and their key workers (youth workers assigned to individual participants during the Rock and Water program). Participants rated their experiences of their key worker on a 10 point continuous scale (see appendix B). The scale included the following items:

- “I like hanging around my key worker”
- “My key worker is fun to be with”
- “I feel safe around my key worker”
- “I can trust my key worker”

Of significant interest, overall, the participants rated their relationships with their key worker in extremely positive terms both during the pre-test and the post-test measures. For instance, the item “I feel safe around my key worker” was universally rated as extremely high within both the pre-test ($M = 9.56$, range 8 to 10) and post-test ($M = 9.33$, range 8 to 10).

The four-item relationship scale exhibited good reliability (pre-test $\alpha = .87$, post-test $\alpha = .72$). Paired sampled t-tests indicated that participants who attended the Rock and Water program had a marginal improvement in the strength of their relationships with their key worker (pre-test $M = 32.00$, post-test $M = 34.00$), however, this result was not at a significant level, $t(8) = 1.02$, $p = .34$. This non-significant result must be understood in relation to overall pattern of responding. For instance, as mentioned, the participants rated their relationship with their key workers in very positive terms prior to the start of the program. For instance, on the 10-point continuous scale (see appendix B), the mean rating on the above items was 8 out of 10 for the pre-test. For this reason, the scale did not have the capacity to measure larger improvements in the quality of the relationship (e.g., the scale exhibited a “ceiling effect”), and considering the small sample size, the study did not have the “power” (or ability) to achieve significant results. However, taken on a whole, the results indicated that the young people reported excellent

relationships with their key workers prior to the program starting and these relationships were maintained throughout the program.

3. Participants' Preparedness to Share their "Story"

A five-item questionnaire was developed to assess the degree the participants were willing to talk about their previous history or share their "story" with their key worker. This was assessed on a 10-point continuous scale (see appendix B). This scale included the following items:

- "I find it easy to talk with my key worker when I am worried or scared"
- "How often do you talk about the reasons why you came into care"
- "How easy is it to talk to your key worker about the really difficult things about your previous experiences (e.g., reasons why you came into care)"
- "I can talk to my key worker about anything"
- "I keep secrets from my key worker"

This five-item scale exhibited satisfactory reliability (pre-test $\alpha = .68$, post-test $\alpha = .78$). A positive relationship was found between this scale and the aforementioned relationships scale for both the pre-test ($r = .57$, $p = .16$, non-significant result) and the post-test ($r = .71$, $p = .03$, significant result). This suggests that this scale was measuring a similar construct to the relationship scale. Paired sampled t-tests indicated that over the course of the program the participants were slightly less prepared to talk to their key worker about their previous history (pre-test $M = 31.61$; post-test $M = 28.00$), however, this result was not at a significant level, $t(8) = 1.25$, $p = .25$. In summary, the current evaluation found no support that the Rock and Water program led participants being more prepared and willing to talk about their previous history and life story.

Qualitative/Observational Evaluation Data

Participant Post-Program Questionnaire

Of the 13 participants who started the program, 10 participants completed all, if not the majority, of the program components. After consultation with the psychologist, one participant was excluded from the program during the first camp, as it was assessed that the differing routine and structure of the program was highly anxiety provoking for the young person, and contraindicative to positive program outcomes. Two other participants drifted out of the program on their own volition. In summary, however, a feature of the 2007 Rock and Water program was the high rate of program completion, or the percentage of young people who attended and completed all program components (10 out of 13 young people). A number of youth workers reported to the first author that their allocated young person's attendance and participation in the Rock and Water program had been significantly higher than the young person's external school attendance/participation.

Ten participants completed an anonymous questionnaire during the final camp (appendix C). Table 1 shows the results of this questionnaire. Overall, the participants rated the Rock and Water program as a fun, positive and worthwhile experience. Of note, 100% of the participants positively supported the item "The last Rock and Water program has been one of the best experiences of my life". The items that attracted more ambivalent responses included those that related to the generalisability of program outcomes (e.g., school).

Table 1. Frequency (%) of responses from participants who completed the post-program questionnaire

	Not at all		Unsure		Very Much
	1	2	3	4	5
1. I really enjoyed the last Rock and Water program.				20	80
2. The last Rock and Water program has been one of the best experiences of my life.				30	70
3. I really enjoyed spending lots of time with my key worker (adult from unit/home) during the Rock and Water program.		10	10	30	50
4. My relationship with my key worker (adult from unit/home who supported me on Rock and Water) has improved since being on the program.	10		20		70
5. The Rock and Water program has helped me deal with my peers (other unit kids) better.			10	50	40
6. The Rock and Water program has helped me deal with school better.	20	10	20	20	30
7. I participated at my best (e.g., gave 100%) during the last Rock and Water program.			10	30	60
8. I had fun with my key worker during the last Rock and Water program.	10		10	10	70
9. I have learnt things about myself during the last Rock and Water program.		10	10	30	50
10. The adult staff that participated in the last Rock and Water program did a good job.		10	10	10	70
11. I would do the Rock and Water program again.					100

Responses from open-ended questions were also sought from the participants. In the majority of cases the young people experienced the Rock and Water program as a fun experience. Of interest was that the majority of the positive reflections reported by the participants were attributed to activities outside of the formal Rock and Water program components (e.g., camping, beach activities and fishing) or included relationship-based activities (e.g., spending time with peers and adults). The open-ended participant reports contained a “recency effect”. In other words, the majority of positive participant reflections centred on activities undertaken during the final camp.

Youth Worker Descriptive Data

Youth Worker Evaluation of Relationships and Understanding of Young Person

All youth workers who attended the Rock and Water program completed a six-item anonymous questionnaire both at the start and at the completion of the program (non-matched sample). This questionnaire assessed the youth worker’s relationship with the young person who they supported during the program on a 10-point continuous scale (appendix D). The questionnaire exhibited no robust psychometric properties, and for this reason, its application and interpretations are restricted to exploratory analysis. Table 2 shows a summary of the qualitative comparisons of the item’s mean ratings from the pre-test to the post-test.

Table 2. Pretest-posttest youth worker responses

	Mean pretest	Mean posttest	p*
How strong is your relationship with the young person?	7.15	7.75	0.27
How much do you know of the young person's life or abuse history?	7.00	7.50	0.62
How often does the young person initiate conversations with you regarding the abuse and/or earlier childhood memories they experienced prior to coming into your care?	3.54	4.20	0.41
How often do you initiate conversations with the young person regarding the abuse and/or earlier childhood memories they experienced prior to coming into your care?	4.85	5.20	0.63
How confident do you feel about having conversations about the previous life and abuse history of the young person?	7.54	7.10	0.69
How much is the young person's current challenging or problematic behaviours a direct result of their early childhood history?	7.38	8.10	0.33

*p = probability that result is due to chance using an independent t-test. p < .05 represents a significant result.

Overall, the trends suggest that the youth workers who attended the Rock and Water program reported small, but non-significant improvements in their relationship with their young person on a number of different measures. Interestingly, youth workers reported that they felt slightly less confident talking to their young person regarding the young person's earlier history or life story.

Youth Worker Post-Program Questionnaire

The majority of youth workers who supported the Rock and Water program completed an anonymous questionnaire at the conclusion of the program (appendix E).

Table 3 shows a summary of the responses generated from this questionnaire. In short, it shows that the youth workers rated the program as a universally positive experience for both themselves and the participants, although a number of areas of ongoing improvement were also identified.

Table 3. Frequency (%) of responses from youth workers who completed the post-program questionnaire

	Not at all		Unsure		Very much
	1	2	3	4	5
1. The last Rock and Water program achieved its stated goals.			20	40	40
2. I enjoyed myself while I participated on the last Rock and Water program.			10	40	50
3. The young person who I supported on the last Rock and Water program enjoyed themselves during the program.				10	90
4. I enjoyed the opportunity to work with other youth workers on the last Rock and Water program.				10	90
5. I learnt some things about myself during the last Rock and Water program.		10		70	20
6. The young person who I supported on the Rock and Water program gained benefits from the program.			10	30	60
7. I felt supported by my supervisor to attend the last Rock and Water program.	10		10	10	70
8. I felt supported by the other Rock and Water staff members when I attended the last Rock and Water program.			10	10	80
9. The adult staff on the last Rock and Water program contributed equally on the program.	10	10	10	20	50
10. I find it easier to talk to the young person who I supported on the Rock and Water program about the really hard topics (e.g., their previous history) since attending the program.	20		10	30	40
11. I want to be part of future Rock and Water programs.		10		10	80
12. The psychologist's involvement before and during the last Rock and Water program added to the program goals and outcomes.			20	60	20
13. I understood the role of attachment relationships as it relates to Rock and Water.				30	70
14. I understood what was expected from me during the Rock and Water program.				20	80
15. I was happy in the way young people's behaviours were managed and responded to during the last Rock and Water program.			10	50	40
16. The Rock and Water lessons were not covered well during the last Rock and Water program.	40	10	10	30	10
17. There was a good balance between Rock and Water lesson components and fun/playful activities during the last program.				30	70
18. The Rock and Water planning day was a worthwhile addition to the last program.		10	30	10	50
19. Psychological involvement and support in the Rock and Water program should be maintained for future programs.			10	20	70
20. My relationship with the young person who I supported during the last Rock and Water program has improved since starting the program.	10		30		60
21. I feel that I can better understand the young person who I supported on the last Rock and Water program since attending the program.		10	10	40	40

In summary, the following general themes were drawn from the above questionnaire and the responses to the open-ended questions.

- Youth workers who attended the program reported a number of positive outcomes in relation to themselves. They reported that they had the opportunity to develop positive and fun relationships with young people outside of the difficult environment of the care facility. The youth workers reported that they enjoyed developing relationships with other adult figures. The relationships between the young people and staff were described in terms such as “family” and “comradeship”.
- The key workers reported that the young people who attended the Rock and Water program achieved a number of positive outcomes. These outcomes related extensively to the themes of personal growth, skill development and improved relationships with adults and peers.
- The youth workers reported that they were disappointed that the leadership and psychological support became less intensive (and supportive) over the duration of the program. The first author interpreted that the youth workers internalised this less intensive support as a form of “abandonment”. Other youth worker concerns included: (1) the program had been psychologically draining, (2) the adult work roles had not been evenly distributed at all times, (3) the program outcomes had not been generalised beyond the learning environment for some young people and (4) some inter-client relationships had been maladaptive.

Qualitative Observations from the Psychologist who Attended the 2007 Boys’ Rock and Water Program

Ivan Raymond, Clinical Psychologist from the Guardianship and Alternative Care Psychology Team, attended the first camp and three program sessions of the 2007 boys’ Rock and Water program. The following points summarise the author’s qualitative observations.

- The level of client engagement and participation in the Rock and Water sessions fluctuated both between clients and sessions. However, in comparison to previous programs the first author had been involved with, there had been a high level of participation and engagement during the Rock and Water sessions.
- The psychologist observed no escorts, restraints or overly authoritarian behaviour management by youth workers during his involvement with the program.
- During the program, it was observed that young people actively engaged with and enjoyed positive relationships with the adults. The participants were observed seeking comfort, appropriate physical contact and nurturing support from the adult figures. The author observed that the participants’ willingness to undertake connection-seeking behaviour with unfamiliar adults increased over the author’s short involvement with the program.

Summary and Conclusions

The Rock and Water program had been delivered within the Families SA alternative care system since 2002. Program development and delivery had continuously evolved and in 2007, both the boy's and girl's programs were supported by Families SA psychologists.

Prior to the 2007 programs, there was strong descriptive and anecdotal support for the value of the Rock and Water program for both young people and youth workers (Raymond, 2005a; 2005b; 2005c; 2006). Despite these reports, the lack of robust program evaluations meant that a number of questions remained regarding the efficacy of the program. A previous pretest-posttest quantitative evaluation found limited support (including contradictory evidence) for the effectiveness of the program, however, this result should be interpreted in relation to the methodological limitations of the evaluation (Raymond, 2005c).

The current evaluation provided consistent, but preliminary, support that the 2007 boys' Rock and Water Program achieved a number of positive outcomes for both participants and youth workers involved with the program. The quantitative evaluation contained in this report represents the most robust assessment of the Rock and Water program to date. Although this evaluation found positive trends, in relation to the program being linked to a non-significant reduction in the expression of anger and improved youth worker-client relationships, these results were not at a statistically significant level. Furthermore, participants showed a minor, but non-significant, decrease in their willingness to speak to their key worker about their previous history or life-story.

Taken on a whole, the quantitative results must be understood in relation to a number of methodological shortcomings contained with the current evaluation. First, the current evaluation utilised a pretest-posttest design. As this did not include the application of a control group, the evaluation design cannot rule out that the study's quantitative results were not due to factors occurring outside of the program (e.g., maturation of participants, other Families SA interventions). Second, the small sample size of this study significantly impaired the ability to undertake robust statistical analysis and achieve statistically significant results. For instance, small to medium changes in participants' functioning (e.g., improved participant/youth workers relationships, expression of anger) could not be statistically detected through the current study design. Finally, ongoing questions remain regarding the ability of the self-report measures to reliably measure participant attitudes and behaviours. The utility of these measures remains dependent upon the participants demonstrating appropriate levels of self-awareness, self-reflection and abstract reasoning skills. Overall, the concerns noted with the current evaluation reflect the difficulties in evaluating small, heterogeneous and complex sample groups. Ongoing program evaluation, based upon a continually evolving and dynamic research methodology, is required to validate and extend the results of this evaluation.

The current evaluation indicated that both youth workers and participants retained and marginally improved their positive relationships with one another over the course of the program. However, this had not translated to an increased willingness and confidence to talk to each other about the young person's life story. While the exact nature of this result is unknown, the first author speculates that the psychologist's interventions during the initial stages of the boys' program may have contributed to this finding. That is, the psychologist artificially created a number of opportunities for participants to share their "story" with their allocated youth worker. It is possible that this non-spontaneous process fostered anxiety both within the youth worker and participant, and led to a decreased willingness and confidence to undertake

such conversations. It is recommended that, in the future, the Rock and Water program should limit itself to fostering spontaneous dialogue between youth workers and participants.

The qualitative evaluation data from the 2007 boys' Rock and Water program provided strong support that both youth workers and participants experienced the program as a fun, worthwhile and valuable experience. This feedback reflected and supported the previous evaluations (Raymond, 2005a, 2005c). Overall, current evaluation provided no information on whether the reported program outcomes led to long-term behavioural changes or, the degree the outcomes were generalised to other settings.

In summary, two important features of this and the previous Rock and Water program evaluations are noted. First, young people share a very positive regard for the Rock and Water program and this would appear linked to the high program completion and participation rate. Traditionally, young people residing in alternative care present with high rates of program drop-out and report very negative evaluations towards schools and programming in general. Second, the evaluation showed that young people and youth workers reported an overwhelming sense of "connectedness" to the Rock and Water program and to both youth workers and participants associated with the program. It would appear that the Rock and Water program provides the opportunity for children to experience fun and playful interactions with both peers and adults. Such activities remain a fundamental development task for male and female young people who have experienced backgrounds of abuse and trauma (Hughes, 1997; Perry; 2004). It is through these positive adult interactions and experiences, facilitated by fun and playfulness, that young people are provided alternative examples of adult-child interactions that challenge their earlier negative relationship experiences. This provides a foundation for young people to reconstruct their experiences of trauma and abuse.

The 2007 boys' Rock and Water program had been delivered alongside a range of experiential and outdoor activities (camps, beach sessions). Previous delivery of the Rock and Water program, without the inclusion of such experiential activities, was anecdotally reported as achieving fewer outcomes (Raymond, 2006). Therefore, the question is posed, what is the interaction between the outdoor/experiential activities and the Rock and Water lessons in relation to program outcomes? In other words, could the same outcomes be achieved through the sole application of outdoor or experiential activities? Further research, isolating individual and program variables, is required to answer these questions. However, from the authors' experience, the high levels of comradery and connectedness demonstrated by both participants and youth workers within the Rock and Water program can only be achieved through purposeful and structured programming. The Rock and Water program components, augmented with experiential activities, provide a single focus to bring together both adults and young people around a common and united goal. In other words, Rock and Water represents a "program with a purpose", and it is this purposeful nature that would appear to be linked to the positive qualitative outcomes reported in this evaluation.

In summary, consistent but preliminary support is provided that the Rock and Water program has the capacity to galvanise youth worker interest in a manner that can lead to a number of positive outcomes for both young people and youth workers. The most consistent child-centred outcomes relate to relationship development, as mediated by the important developmental tasks of fun and playfulness. The program also provides an opportunity for youth workers to work with young people within a "proactive", as opposed to a crisis driven or "reactive" framework. There are a number of potential flow-on effects of such experiences, including improvements in job satisfaction and reducing stress and burnout.

Despite the noted positive outcomes, there are a number of areas for future program development, these include:

- There is a need for more rigorous program evaluation, including the use of behavioural outcomes and robust research methodologies (e.g., pretest-posttest control group design).
- The long-term utility of intensive youth worker involvement requires further examination. For instance, is it feasible to deliver the program on a one-on-one basis?
- The quantitative evaluation of the Rock and Water program for female client groups is required.
- The type and intensity of supplementary experiential activities attached to the Rock and Water program requires further exploration.
- The generalisability of the Rock and Water learning outcomes beyond the immediate programming context requires ongoing analysis.

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Appendices

(Appendices removed, available upon request)