PARENTAL MONITORING OF ADOLESCENT FREE TIME:
A THEORETICAL MODEL OF PARENT-ADOLESCENT
INTERACTIONS

A thesis submitted in (partial) fulfilment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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DECLARATION

I certify that except where due to acknowledgment has been made, the work is that of the author alone; the work has not been previously submitted, in whole or in part, to quality for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; and, any editorial work, paid or unpaid, carried out by a third party is acknowledged.

Louise Hayes,
July, 2004
I would like to thank my two sons, Jackson and Darcy. I undertook this project for them, in the hope that its completion would open doors of opportunity. Their joyous somersaults when hearing it was finished will become a treasured memory. I would like to thank my husband Phil for his encouragement and support. Without his willingness to share parenting I would not have considered undertaking this project. I would also like to thank Phil for his patience during my times of preoccupation, his hours of proof reading, and his help with the tedious checking required when completing a PhD. I would also like to thank my friends and family for their encouragement and support throughout this project.

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DISSEMINATION DETAILS

Sections of this thesis have been accepted for publication in peer-reviewed journals, or presented at conferences. The details are as follows:


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Parental monitoring is a widely researched hypothetical construct. Patterson and colleagues (Capaldi & Patterson, 1989; Patterson, Reid, & Dishion, 1992) originally developed the construct in their seminal work with the Oregon Youth Study. Adopting a broad theoretical framework, monitoring was defined as parental awareness of adolescent activities, and communication to the child that the parent is concerned about and aware of adolescent free-time (Dishion & McMahon, 1998). Recent research (Kerr & Stattin, 2000; Kerr, Stattin, & Trost, 1999; Stattin & Kerr, 2000) has proposed a narrower definition, where monitoring is perceived to be parental knowledge of adolescent free-time, which is acquired primarily through adolescent disclosure of their activities. Recent debates have been present in the literature proposing either the multi-dimensional view of monitoring, or the latter uni-dimensional view.

A model of monitoring interactions was developed that is based on social learning and behavioural principles. The process-monitoring model contends that monitoring is an interactive process between parents, their adolescents, and the ecology of the family. In the model it is proposed that monitoring occurs in discrete episodes that change over the course of adolescent development. To explain monitoring interactions, it is essential to consider the sequence of behaviours that occur within a monitoring interaction at two stages, before the adolescent goes out, and also when they return home. Using the process-monitoring model as a framework, this research examined monitoring across four studies.
Study 1 was a qualitative study that explored adolescent perceptions of monitoring interactions. Forty-nine adolescents aged from 12 through to 16 years ($M = 13.2$) were interviewed about their monitoring interactions with parents. This study found correspondence between the constructs in the process-monitoring model and adolescent perceptions of monitoring interactions. Two new themes that emerged in this study were parental trust and adolescent deceit. For typically developing adolescents there were marked differences in how adolescents perceive parental monitoring across adolescent development.

Study 2 involved the analysis of data collected as part of a population based self-report survey of 1285 adolescents aged 14 to 15 years. The hypothesised relationship between monitoring behaviours was examined using structured equation modelling. A model with the constructs of rules, supervision, conflict, and adolescent problem behaviour was found to be an adequate fit of the data, accounting for 40% of the variance in problem behaviour. Specifically, lax rules predicted poor supervision and high conflict. High conflict and low supervision were predictors of the adolescent problem behaviour construct, which encompassed conduct problems, rebelliousness, and sensation seeking. Adequate rules appear to form the foundation for better supervision and less conflict, and hence, lower levels of adolescent problem behaviours.

Study 3 involved data collected for the purpose of further testing the process-monitoring model. The associations between parent-adolescent relationship quality, rules, solicitation, disclosure, and tracking were tested using linear path modelling on self-report data from a sample of 210 parents and 202 adolescents aged 11 to 18 years ($M = 15.29$). Separate statistical models were required for the parent and adolescent data. For the adolescent data the model was an adequate fit, accounting for 27% of the
variance in tracking behaviours. In the adolescent model, high rule-setting predicted higher solicitation and tracking, while poor relationship quality predicted lower disclosure and lower tracking. For the parent data, the model was an adequate fit accounting for 34% of the variance in tracking behaviours. In the parent model, high rule-setting predicted higher solicitation, disclosure, and tracking, while poor relationship quality predicted lower disclosure, lower solicitation, and poorer tracking scores. The tracking construct was found to adequately predict adolescent deviant behaviours including alcohol use, smoking, and deviant peer associations.

Study 4 was an exploratory study. In this study the monitoring scale constructed in Study 3 was examined alongside behavioural observations made whilst conducting an intervention with two families who were experiencing parent-adolescent conflict. Some correspondence was found between parent and adolescent measures of monitoring and conflict and the behaviour seen between parent-adolescent dyads; however, the self-report monitoring measures were only able to reveal substantial problems in monitoring. Problem Solving and Communication Training (Robin & Foster, 1989) showed some improvement in parent-adolescent relationships, as measured by the Issues Checklist (Robin & Foster, 1989) and Conflict Behaviour Questionnaire (Prinz, Foster, Kent, & O'Leary, 1979), but there was no impact on monitoring interactions.

This series of studies supported the claims that monitoring is a multi-dimensional construct, and that it has bi-directional effects. There was support for the existing research, which has shown that poor parental monitoring is consistently associated with adolescent problem behaviour. The process model was found to provide an adequate framework for examining the temporal sequence in monitoring interactions and the evolution of monitoring across the adolescent developmental cycle.
At this stage there is little experimental or intervention research showing how families might improve their monitoring. It is argued that behavioural observations and functional analyses of monitoring episodes are needed to provide an understanding of the action-reaction sequence across monitoring episodes.
CHAPTER 1 - THEORETICAL BACKGROUND TO PARENTAL MONITORING

Parental monitoring is a hypothetical psychological construct that has been used to explain a composite of parenting practice variables including awareness, communication, concern, supervision, and tracking of adolescent behaviour. Patterson and colleagues (Patterson & Bank, 1987; Patterson et al., 1992; Patterson & Stouthamer-Loeber, 1984) developed the parental monitoring construct in their seminal work with the Oregon Youth Study. The most widely accepted definition of parental monitoring is: “parental awareness of the child’s activities, and communication to the child that the parent is concerned about, and aware of, the child’s activities” (Dishion & McMahon, 1998, p65). Recent research (Kerr & Stattin, 2003a, 2003b; Stattin & Kerr, 2000) has challenged this view of parental monitoring, claiming that parental tracking and supervision is not the best description of the construct, rather, parental monitoring is determined by an adolescent’s willingness to talk about their activities with their parents.

These opposing views have lead to a research debate over whether parental monitoring is a parent driven construct, or an adolescent driven construct. In an attempt to clarify research issues, this chapter presents a theoretical background to the parental monitoring construct, and then the following chapter presents an empirical review of research on parental monitoring. The rationale for reviewing theory before the empirical results is that a definition of a psychological construct should have sound theoretical foundations, and be driven by theoretical model building (Dishion &
McMahon, 1998). In this way, empirical testing and revision follows theoretical model building.

The aim in this chapter is to provide a comprehensive theoretical overview of the parental monitoring construct and factors likely to influence monitoring. The review begins with an analysis of the process of parental monitoring, by considering micro-social behavioural interactions. Then, adolescent development will be reviewed, with a focus on those aspects of development that are likely to influence monitoring. Following this, parental characteristics and models of parenting will be discussed. Finally, ecological aspects will be considered, following the assumption that contextual factors have an overarching influence on the adolescent and parent, and therefore research on monitoring should be evaluated within this framework. It is anticipated that this review will establish a theoretical framework in which to review the empirical literature.

**Assumptions of Monitoring in Adolescence**

Monitoring has several literal meanings in relation to human behaviour; these include regularly checking on something, being knowledgeable about another’s behaviour, or admonishing for misconduct. Parents of very young children monitor their child by observing the child’s behaviour, being knowledgeable about their progress, and using parenting skills to shape their behaviour. In contrast, adults are expected to self-monitor their behaviour, although this can also be facilitated by the expectations and standards of others. Monitoring in adolescence falls somewhere in between these two extremes. It is not attributed solely to parental authority, and it is not characterised by complete adolescent independence. Also, monitoring is different to supervision, because supervision requires the presence of an adult, but monitoring of
adolescent behaviour can take place without an adult present. Therefore, in this review it is assumed that monitoring of adolescents is dependent on parents, but monitoring contributions also come from the adolescent, and monitoring can take place in the presence or absence of an adult.

*Theoretical Principles of Monitoring Interactions*

**Social Interactional Foundation**

An explanation of the theoretical foundations of the Oregon Youth Study (OYS) will clarify how the parental monitoring construct evolved. The aim of the OYS study was to explain the development and maintenance of antisocial behaviour using social learning principles. Behaviour was explained within the three-term behaviour contingency (A-B-C) framework; where *antecedents* (stimuli or environmental cues) elicit a *behavioural response*, and the *consequences* of that response determine the predictability of the response in future interactions (Hudson, 1998).

The central tenet of the OYS research was Patterson’s (1982) coercion model of aversive family exchanges. The coercion model demonstrated that child problem behaviours begin with a break down of parental effectiveness, with disciplinary confrontations resulting in increased coercive exchanges between the child and parents. Consequently, the child finds that aversive behaviours such as whining, crying, yelling, hitting, or having tantrums are effective in turning off the aversive disciplinary behaviour of parents. In this way, the child trains the parents to use reactions that will terminate unpleasant parental behaviour. The coercion model demonstrated that analysis of daily parent-adolescent interactions at a micro-social level could elucidate
the reinforcing contingencies that maintain problem behaviour. It was argued that small everyday events provide the key to understanding how behaviours are elicited, maintained, and organized (Andrews & Dishion, 1994).

*Behavioural Principles of Monitoring*

Behavioural principles assume that behaviour is a function of the contingencies of reinforcement and punishment within everyday interactions (Serketich & Dumas, 1996). These principles will now be considered in parent and adolescent monitoring interactions, in order to understand the behaviour patterns that are likely to occur. With adolescents, monitoring interactions can be influenced by contingency-shaped behaviour or rule-governed behaviour, and each of these will be elaborated on in relation to monitoring interactions. Parental behaviour can also be contingently shaped by the behaviour of the adolescent, as the parent attempts to monitor, and this will also be discussed.

*Contingency-shaped behaviour and monitoring*

Contingency-shaped behaviour is behaviour that is controlled directly by its consequences. Much of parental monitoring of young children’s behaviour is contingency-shaped, with parents observing their child’s behaviour and responding with reinforcement or punishment. In adolescence, monitoring continues to be shaped by parent-set contingencies, for example, parents may positively reinforce an adolescent for politely seeking permission to go out, by allowing them to go; or they might punish them if they rudely demand that they should go out, by refusing permission. The patterns of interactions between parent-adolescent dyads have already been firmly established in childhood and this interaction history can influence a parent’s capacity to monitor.
A lot of monitoring in non-clinical families is most likely to occur within the ongoing exchange of family life. Family members usually share their experiences in a fairly routine manner, such as immediately when coming home, or over the dinner table. When parents ask an adolescent “how was your day?” they are beginning a monitoring exchange. This type of interaction is a major socialisation mechanism for parents to monitor their children and also share values and skills (Patterson, 1982). According to Patterson (1982) effective daily interactions are not lectures, merely brief discussions of prosocial behaviour, often with humour present. For example, if an adolescent tells of a senior boy who was drunk at school, his parent’s may merely reflect back by saying that he will be very embarrassed when he returns to school, and also very ill tomorrow. In this way, implicit values on appropriate behaviour are shared in the warmth of a family discussion.

At the other extreme, monitoring interactions in some families are likely to be characterised by lectures, attacks, and criticism. Patterson et al.’s coercion model (1992) was developed to describe the contingency-shaped behaviour of antisocial boys, however, it will be used in this chapter to demonstrate how parental monitoring interactions might be influenced by a well-rehearsed coercive action-reaction sequence. Table 1 shows a hypothetical monitoring exchange using the steps in Patterson et al.’s (1992) coercion model.
Table 1

An Example of the Coercion Process in Parental Monitoring Interactions

Hypothetical Monitoring Episode

<table>
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<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
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<tr>
<td>Mother scolds the adolescent for being late home from school, and asks where he has been.</td>
<td>The adolescent responds by yelling that the teacher kept them late, and the bus was late. He demands to know why she is asking questions, and claims she does not trust him.</td>
<td>Mother allows herself to be calmed by the adolescent's claims of a late bus, or not trusting him. She turns to a conversation about the adolescent's day.</td>
<td>Adolescent responds to mother's general questions about school.</td>
</tr>
</tbody>
</table>

Theoretical Analysis of this Interaction:

- **Adolescent operant behaviour**
  - Adolescent is aversive.
  - The adolescent's arguing is a negative consequence to the mother's monitoring behaviour.
  - Adolescent is negatively reinforced.
  - The adolescent is negatively reinforced, because his aversiveness has switched his mother off.
  - Adolescent responds positively.
  - Mother ceases questioning. The interaction has increased the likelihood that next time his mother monitors his behaviour, he will respond with aversive behaviour.

- **Mother operant behaviour**
  - Mother is punished.
  - The arguing serves as a punishment that is likely to suppresses her future monitoring behaviours.
  - Mother avoids arguing.
  - Mother turns off the adolescent arguing by submitting and listening to his excuses.
  - Mother negatively reinforced for submission.
  - The adolescent's more positive responses about his day negatively reinforce his mother for submitting. She is more likely to submit next time he is aversive.
In this example, an adolescent responds aversively to monitoring questions from a parent. This acts as a punishment to the parent for asking monitoring related questions, and reduces parental questioning. The parent’s submission negatively reinforces the adolescent to act in aversive ways in future monitoring interactions. The parent is also negatively reinforced when the adolescent follows the parent’s submission by complying with alternative non-threatening conversation.

Following this line of reasoning we can see that when adolescent problem behaviours have become ‘hot issues’ this coercive process is likely to be performed many times in parental monitoring interactions. According to Patterson (1982) many coercive family monitoring interactions include yelling, lectures, criticism, and personal attacks. Therefore, in coercive families, encouraging parents to increase their monitoring questions is likely to be met with resistance, particularly if parents have established a pattern of avoidance and escape. Importantly, the outcome of such advice may well increase aversive exchanges, and this may then be followed with more avoidance and even more unsupervised time. The coercion model exposes how in families who are experiencing problem interactions, avoidance and coercion are key research areas for parental monitoring.

**Rule-governed behaviour**

As discussed above, contingency-shaped behaviour is controlled directly by the consequences of behaviour. In contrast, rule-governed behaviour is defined as the behaviour of following rules, generally because the rule includes a specified and dependent consequence. While the distinction between rule-governed behaviour and contingency-shaped behaviour is debated in the literature (Reese, 1989), the assumption taken for the purposes of this analysis of monitoring, is that verbal rules are used by parents in a different manner to the contingent behaviour shaping process.
described in the previous section. It is only in late childhood and early adolescence that
the cognitive ability to follow abstract rules develops, and rule-governed behaviours
come to the fore (Grant & Evans, 1994). This occurs at the same time that adolescents
begin to demand more time away from parents (Larson, Richards, Moneta, Holmbeck,
& Duckett, 1996). Therefore, with monitoring, parental verbal rules for appropriate
behaviour become more important because the parent may not be present. Unlike
young children who can be monitored via direct observations, if parents are to have
input into their adolescents’ behaviour without always being with them, then they must
use verbal behaviour for socialisation and setting limits on behaviour.

An analysis of the properties of rule-governed behaviour for parent-adolescent
interactions is necessary because parents use verbal rules to monitor. The principles of
rule-governed behaviour (Skinner, 1969) specify that verbal rules are more effective if
consequences are dependent on rule following, and if the rule is clearly specified.
Therefore, in monitoring we would expect that more efficient monitoring would occur
if parents provide adolescents with clear rules, the consequences for misbehaviour are
clearly specified, and then followed through by parents. The properties of rules can be
seen more clearly if we consider rules as having either (a) direct-acting consequences,
or (b) indirect-acting consequences (Malott, 1989). In parental monitoring, a rule with
(a) direct-acting consequences, for example, ‘come straight from school and you can go
to a friend’s house at 5 o’clock’ provides a clear and immediate consequence for
appropriate behaviour. The behavioural assumption is that this type of parental
monitoring, based on direct-acting, consequence-dependent rules, should have a
powerful effect on adolescent and parenting behaviours. Malott (1989) states that
behavioural problems occur when contingencies are not direct-acting, because the
negative consequences of not following rules are not immediate, probable, or sizeable.
Hence, in monitoring, rules that are based on (b) indirect-acting consequences are likely to have little influence in modifying adolescent behaviour. For example a rule with an indirect-acting consequence, ‘come straight from school and you might be able to have friends over on the weekend’ may be ineffective because the consequences are too delayed, too improbable, or too small. In this example the adolescent must choose between the consequences of (a) hanging out with friends (a strong reinforcer), or (b) getting approval from parents by coming home and maybe seeing friends on the weekend (a remote reinforcer). Furthermore, there is little doubt that adolescents are keenly aware of parental styles and become skilled at weighing up the consequences of following or breaking parental rules.

An alternative proposition is that rules are followed as an escape procedure, rather than as a relation of the consequence (Malott, 1982 as cited in Reese, 1989). In this way the functional consequence becomes not the one specified by the rule, but a negative reinforcer. For example, a parental rule often stated is ‘if you don’t study you will fail school’. If escape was reinforcing, then an adolescent may study simply to avoid hearing their parent repeatedly lecture them with this rule, not because they fear the consequences of failing. Alternatively, some adolescents may follow parental rules in order to avoid the guilt or anxiety of not pleasing parents. Thus, it is proposed that for some adolescents, escape may contribute to rule following, and this behaviour may be important to monitoring interactions.

Most parents give verbal rule statements on a regular basis; however Patterson (1982) found that in dysfunctional families rule-setting is noticeably absent. With few rules to set limits or curfews there is no agreed point at which the adolescent and parent can agree that punishment should occur. One would expect that in this case when a parent does provide a consequence for inappropriate free-time behaviour the adolescent
is likely to be defiant. This pattern has been noted by Patterson et al. (1992), who reported that coercive exchanges are more likely in families where the rules for family behaviour, or the roles of family members are not clearly defined. Hence, an analysis of monitoring requires an understanding of the extent of rules in a family, the procedure for stating the rule, and the pattern of interaction that follows rule-breaking.

Theories of Adolescent Development Pertaining to Monitoring

Dishion and McMahon (1998) argue that from infancy to adolescence the function of parental monitoring remains the same. Following this logic, the present author assumes that the function of monitoring in adolescence is for parents to encourage adaptive socialisation behaviours, whilst ensuring their adolescent’s safety. It is also assumed that monitoring during adolescence requires parents to gradually transfer control to their adolescent, but challenges are likely to arise when an adolescent expects a rapid decrease in parental monitoring. These challenges occur because adolescents seeking independence and autonomy may not share their parent’s views on appropriate behaviours or danger. Therefore, in this analysis of monitoring it is important to examine the developmental characteristics of adolescence as they pertain to monitoring. The key issues that will be discussed below include independence, autonomy, parent-adolescent communication, conflict, disclosure, and trust.
Transformation in Parent-Adolescent Relationships

Transformation, rather than storm and stress, is a more apt way of defining changing relationships during adolescence. Established patterns of family relations are interrupted (Robin & Foster, 1989), but research has consistently shown that when adolescents report feeling close to their parents they score higher on measures of psychological development, behavioural competency, and self-reliance, and report lower rates of psychological and social problems (Armsden & Greenberg, 1987; Steinberg, 1990). However, adolescent emotional experience of family does change, following a curvilinear path from childhood to late adolescence (Larson et al., 1996). Early adolescents report less positive family interactions, and view their families as less friendly, whereas older adolescents report more favourable and positive family emotions (Collins & Repinski, 1994; Larson et al., 1996; Steinberg, 1990). Taken together, these results suggest that if relationships in the family are strong, parental monitoring interactions should be a time for adolescents to share their lives, but younger adolescents may be more reticent about this sharing. Importantly, if younger adolescents tend to have negative views of family interactions, then this developmental period is important in parental monitoring research, because it coincides with the time when adolescents begin experimenting with adult-like behaviours.

Steinberg (1990) purports that only 5-10% of families experience dramatic deterioration in the quality of relationships during adolescence. However, dramatic deteriorations in parent-adolescent relationships have been highly correlated with prior family problems (Steinberg, 1990). Longitudinal research (Rueter & Conger, 1995) over four years \((N = 355)\) found that families exhibiting hostility and coercion showed deteriorating relationships from early to middle adolescence; in contrast families with warm, supportive relationships tended to improve in their interactions. Rueter and
Conger argue that families who enter adolescence exhibiting negative characteristics in interactions are on a spiral downward through adolescence. In monitoring research, it appears that researchers need to understand more about the process of poor relationships, and the bearing this has on poor monitoring.

**Independence**

Research on adolescent independence shows that adolescence is a time of growing disengagement and increasingly independent time away from the family. In a longitudinal study with an Anglo-European middle class US sample of adolescents aged 10 through to 18 years, Larson (1996) measured time away from family by asking students to respond to random signals from a pager, and report details on their present activity and situation. A dramatic drop in family time was observed with time spent with the family decreasing from 35% to 14% over the age range. In early adolescence this time was replaced with time alone, rather than time spent out of the home. The decline was moderated by increased opportunities outside the home, rather than family conflict and the authors’ hypothesise this as a ‘pull’ to be with friends, rather than a ‘push’ away from family by negative interactions.

**Behavioural Autonomy**

Understanding how parents monitor requires knowledge of the conditions under which parents grant autonomy. Behavioural autonomy is the term used to define adolescent increasingly independent behaviour. There is little published research on the conditions and ages under which parents grant high or low behavioural autonomy (Bumpus, Crouter, & McHale, 2001; Dekovic, Noom, & Meeus, 1997). Hudson, Bell, Hudson, and Houndoulesi (1986) compared parents’ and adolescents’ views on
appropriate ages to grant autonomy and found low concordance rates. In this study parents and adolescents varied by 14 months in their estimates of appropriate ages for independent activity. For example, the age at which boys should ‘decide when to come home at night’ according to parents is 17.2 years, yet boys reported 15.6 years was the appropriate age. Gender is commonly assumed to be an important factor in granting of autonomy; however, Bumpus et al. (2001) found the important mediators were position in family, timing of menarche, traditional family views, locality (rural vs. urban), and ethnicity.

Communication and Conflict

Increasing perturbation in adolescence is widely anticipated by many parents, and therefore, it is likely that parental monitoring is a key area where parents and adolescents will have incompatible views. Laursen and Collins (1994) investigated communication patterns of parents and adolescents, and found adolescents report an average of seven disagreements per day, and most disagreements involve mothers rather than fathers. With non-clinical families, parent-adolescent conflicts are usually about daily activities or chores and they are often unresolved. Meta-analytic results report low-level compromise in parent-adolescent conflict, with submission and disengagement prevalent (Laursen, 1993). Montemayor and Hanson (1985) found three-quarters of conflicts were interpersonal, and included teasing or annoying a sibling, while one-quarter of conflicts were about implicit or explicit rules.

Dramatic shifts in conflict as a function of age or maturation do not appear to be the norm; rather, relationship and contextual factors are more important mediators of conflict (Laursen & Collins, 1994). It appears that parent-adolescent monitoring dialogue is likely to occur often, with opposing views that are frequently unresolved.
However, very low as well as high levels of conflict in parental monitoring interactions are likely to be indicators of clinical importance. The submission and engagement patterns of behaviour in adolescents and parents may be fruitful areas for further investigation of monitoring behaviours.

Disclosure, Trust, and Deceit

Disclosure, trust, and deceit are key aspect of monitoring interactions if an adolescent is to have increasing independence. Adolescence is a time of greater exposure to risk, and parents must not only learn to trust their adolescents to make the right choices, but also learn to intervene at the appropriate time. Disclosure, trust, and deceit will each be reviewed, given that they relate to adolescent development, and each of these issues are crucial to a thorough understanding of monitoring interactions.

As adolescents develop, their patterns of disclosure to parents are thought to change and become more discretionary. According to Noller and Bagi (1985), adolescents tend to self disclose on general topics, plans, and interests, rather than personal issues such as sex. Compared to reports of older adolescents, younger adolescents report that their parents initiate more discussions, and younger adolescents report being more accepting of their parents’ initiating discussions (Noller & Callan, 1990; Papini, Farmer, Clark, Micka, & Barnett, 1990). In a review of 50 studies, Buhrmester and Prager (1995) found 30% of the studies reported decreases in self-disclosure to parents as a function of adolescents age, 70% reported no significant age effect, and there were no studies showing that disclosure increased with age. There is also a significant shift toward greater disclosure to friends, rather than parents (Buhrmester & Prager, 1995). Hence, developmentally, we would expect younger adolescents to be more willing to have parents initiate monitoring discussions than
older adolescents; however, if monitoring discussions included sensitive topics then they may only be discussed when parents initiate the discussion.

There are some differences in disclosure patterns for girls, boys, mothers, and fathers. Girls tend to report higher rates of disclosure to parents than boys do (Buhrmester & Prager, 1995; Noller & Bagi, 1985; Papini et al., 1990), and boys and girls disclose more to their mothers than to their fathers (Buhrmester & Prager, 1995; Noller & Callan, 1990). Mothers are viewed as being more open to communication than fathers (H. L. Barnes & Olson, 1985; Noller & Callan, 1990). These differences are likely to be reflected in monitoring interactions, with girls reporting more communication, and mothers reporting higher monitoring levels. Furthermore, emotional disclosure is associated with adolescent perceptions of openness in family communication, cohesion, and satisfaction (Papini et al., 1990).

Few published studies exist that track the developmental change in trust during adolescence. Trust has been positively correlated with the quality of communication in parent-adolescent relationships, and negatively associated with feelings of alienation and isolation (Armsden & Greenberg, 1987). Trust develops in a reciprocal pattern (Collins & Repinski, 1994), and therefore, parents learn to trust their adolescents more, as adolescents learn to behave within agreed boundaries. It is likely that parental trust also increases with advances in adolescent cognitive abilities (Collins & Repinski, 1994). The association between trust and monitoring has only begun to emerge as an important issue in monitoring.

Surprisingly, the role of deceit and secrecy in adolescent development has been examined in only a few studies. Keeping secrets from parents has been found to be associated with depressed mood and physical complaints (Finkenauer, Engels, & Meus, 2002). Interestingly, in this study negative associations were reported between
disclosure and emotional autonomy, suggesting that as autonomy increased the level of
disclosure was likely to decrease (Finkenauer et al., 2002). In a study where 281
undergraduate students were asked to recall the degree to which they had deceived their
parents when they were in high school (Knox, Zusman, McGinty, & Gescheidler,
2001), 65% reported they had deceived their parents at some time about ‘where I was.’
Only 5% reported they had never deceived their parents about free-time activity,
alcohol use, or sexual behaviour. This small selection of studies makes it difficult to
draw conclusions on deceit and secrecy in adolescence; however, there may be some
important associations between these factors and the process of parental monitoring.

Summary of Adolescent Developmental Issues in Monitoring

In reviewing developmental theories, the research has shown that adolescence is
likely to be the impetus for change in parental monitoring behaviour. However,
continuity in parental monitoring need not be interrupted by adolescence, as most
adolescents maintain good relationships with their parents. Out of necessity, parental
monitoring must become indirect as adolescents disengage from family activities and
spend more time alone or with peers. Parents and adolescents have different views on
the appropriate age for granting behavioural autonomy and therefore frequent
unresolved disagreements in monitoring are likely. Frequent high or very low conflicts
in monitoring interactions may be a marker of clinical difficulty in the parent-
adolescent relationship. Adolescence also signals a change in the disclosure patterns of
adolescents, with some suggestion that disclosure may depend on parental questioning,
an important research area for monitoring. Finally, the developmental task of gaining
parental trust, and the contribution of deceit are areas of limited research, although they
may contribute to the monitoring interactions.
Parenting Factors Pertaining to Monitoring

Many studies have investigated the associations between parenting characteristics and child outcomes, and, as one might expect, there have been strong associations demonstrated. The purpose of this chapter is not to review the variable-centred research on parenting and adolescent outcomes; rather this review will examine theoretical models that have drawn together parenting characteristics in order to provide a framework of parenting characteristics or style, and then discuss how these models might relate to monitoring. To this end, two theoretical models of parenting will be reviewed. The first is the social interactional model of parenting characteristics by Dishion and McMahon (1998), and this is followed by a review of the typological approach conceptualised by Baumrind (1991b). The correlational research that has examined parental variables as they relate specifically to monitoring will be evaluated in the literature review chapters that follow.

Social Interactional Model of Parenting

Earlier in this chapter, the micro-social research on coercive families was reviewed to demonstrate that operant behaviour principles could be used to explain behaviours seen in parental monitoring episodes. An interactional model of parenting has been developed by Dishion and McMahon (1998) that adds to this concept, by providing a framework to examine the relevance that parenting characteristics have to monitoring. Their conceptual model of parenting with adolescents accounts for the
highly correlated parenting characteristics that were shown in the OYS studies (Patterson et al., 1992). The model is shown in Figure 1, and it is proposed that each element of parenting shown is dynamically interrelated. At the centre of this model is the parent-child relationship, which is of paramount importance to effective parenting. The importance of parent-adolescent relationships was also mirrored earlier in the theoretical analysis of adolescent development (Armsden & Greenberg, 1987; Steinberg, 1990), and family interactions using behavioural analysis (Patterson, 1982). Therefore, research that considers how or why parents monitor, should also examine the parent-adolescent relationship quality. The apex of this model is represented by a parent’s motivation, and this is a compilation of parental beliefs, norms, values, and goals. Parent’s expectations of parenting, along with expectations of their child have been shown to be critical to parenting, with poor monitoring a consequence of lowered parental expectations for appropriate child behaviour (Patterson, 1982). This relationship between parental beliefs and child outcomes has also been shown in more recent research (Sigel & McGillicuddy-De Lisi, 2002). Finally, the social interactional model of parenting shows that parental monitoring and parental behaviour management are interrelated, and that these skills depend on the relationship quality and parental motivation.
Figure 1. Social interactional parenting model (Dishion & McMahon, 1998)

*Parenting Characteristics*

It is thought that the clustering together of parenting characteristics provides a concept of the emotional climate in which a child was raised (Darling & Steinberg, 1993), and this theoretical notion can provide the basis on which parental behaviours can be further examined. The typological approach to understanding parenting characteristics draws together clustered patterns of parenting behaviours. The purpose of parenting typologies is to understand the importance of constellations of variables that have been shown in variable centred studies to be highly correlated (Mandara, 2003). Baumrind’s (1991b) series of studies originally described a parenting typology,
and this has been further developed in subsequent research using longitudinal and cross-sectional designs (Maccoby & Martin, 1983; Mandara, 2003). This approach has found four family-parenting styles that are thought to relate to differing child outcomes (Mandara, 2003). *Cohesive-Authoritative* families exhibit cohesion and low conflict in family interactions, and are not over controlling. *Confictive-Authoritarian* families have low family cohesion, use authoritarian discipline, and are controlling. *Defensive-Neglectful* type families display chaotic family functioning, and have very little control, warmth, or cohesion. Finally, the *Permissive* type is highly responsive and low in control. Thus, cohesive-authoritative parenting is purported to be the optimal approach, and this style has been correlated with positive adolescent psychological adjustment across several studies (Baumrind, 1991a; Mandara, 2003; Steinberg, Mounts, Lamborn, & Dornbusch, 1991).

Using this typological approach, we could propose that variables related to the Cohesive-Authoritative parenting style, including responsiveness and warmth, are likely to be important to parental monitoring, while variables related to the conflictive-authoritarian or defensive-neglectful may be strongly associated with poor monitoring; however, several difficulties are apparent when trying to interpret parental monitoring as a function of parenting style only. Firstly, there is little research investigating the relationship between parental monitoring and parenting style. Second, parenting skills are highly correlated and, according to Dishion and McMahon (1998), the correlations do not support the orthogonal dimensions of a typology. Third, the typological approach does not account for the bi-directional nature of parent-adolescent relationships, and one would assume that adolescents who transgress monitoring boundaries frequently might effect a change in parental cohesion and conflict. Finally, while the typological approach is richly descriptive, it reveals little about the process of
parental monitoring, and as discussed earlier, it is an understanding of monitoring interactions that is the aim of this review.

*Parental Dysfunction and Monitoring*

A large body of research has shown that poor parental functioning is correlated with poorer child outcomes. Parenting variables known to hinder parenting include, mental illness (Zahn-Waxler, Duggal, & Gruber, 2002), substance use (Mayes & Truman, 2002), stress (Conger, Patterson, & Ge, 1995; Patterson et al., 1992), and social isolation (Wahler, 1980). It is thought that under stress parents tend to be highly reactive to their adolescent’s behaviour, since it exacerbates the parent’s own feelings of discomfort and tendencies toward increased irritability (Patterson, 1982). Therefore, in research on parental monitoring, parental functioning is an important consideration.

Research has shown that parents under stress are also associated with increased family conflict (Dadds, 1989; Dumas, 1991; Patterson, Bank, & Stoolmiller, 1990). Conflictive interactions can mean that parents avoid confrontations, and the child is less likely to be punished for early deviancy. In the OYS studies, monitoring and discipline were highly correlated (Patterson et al., 1992), and it was hypothesised that parents who monitor poorly are likely to be inept at reinforcement, or have a tendency to punish non-contingently. Avoidance of conflict increases when parents are under stress. Patterson et al. (1992) found the avoidance patterns of parents who poorly monitored were so momentous that clinical attempts to improve parental monitoring in the OYS study were met with strong resistance. These parents had been defeated so many times by the children in their efforts to monitor them that requesting information about where the child was and whom they were with was met with intense confrontations (Patterson et al., 1992). In addition, a second group of parents identified
by Patterson and colleagues were labelled unattached parents because they were too busy with their own lives to monitor their adolescents and resisted monitoring intervention (Patterson et al., 1992).

In summary, parenting issues for monitoring research include the parent-adolescent relationship quality, parental motivation, behaviour management skills, and the parenting skills of parents. Monitoring is likely to be poor when parents are under stress or have other psychosocial stressors. Therefore, for monitoring research to progress to intervention trials, the research needs to consider not just the functioning of the adolescent, but also the parenting qualities that may contribute to good monitoring behaviours, and those behaviours that may detract or create resistance to intervention.

The Context of Parental Monitoring

Finally, a theoretical model of monitoring needs to include a framework for understanding the impact of the family environment on parental monitoring. The most widely cited and understood model of contextual influence is Bronfenbrenner’s (1986) bio-ecological model. This model sought to organize the various levels of influence on a child’s development into a systematic framework. The child was represented by an inner circle within the model, and then nested into ever widening circles, which represented the influence from parents, family, peers, school, and the community. Bronfenbrenner argued that four levels of influence must be included in any conceptualisation of development. The four levels were labelled, Process-Person-Context-Time (Lerner, Rothbaum, Boulas, & Castellino, 2002). This theoretical review has so far reviewed the Process (parent-adolescent behaviours), and Person (adolescent development, and parental characteristics) components.
A recent review of the ecological framework (Stormshak & Dishion, 2002) discussed the importance of Context to adolescents and their families, including peers, extended family, and siblings as a major influence on adolescent development. Peers are thought to play an important role in adolescent decision-making. One difficulty that is present when analysing parental reinforcement or punishment in monitoring is developing an understanding of how much influence peers have, and if going along with peers is a stronger reinforcer. We have seen that for typically developing adolescents the relationship with parents is likely to remain strong. Evidence suggests that well-adjusted adolescents are also more likely to have high quality relationships with their peers (Armsden & Greenberg, 1987). Research on decision-making has shown that whether parents or peers are more important depends on the quality of the parent-adolescent relationship (Noller, 1994; Wilks, 1986). Generally, parents are considered more vital in decision of vocation or money, and peers are considered more important in decisions about clothes, social activities, and entertainment. According to Noller (1994) when everyday problems arise adolescents prefer to discuss these with their close friends, rather than parents.

A contextual analysis must include the influence of the community through school, employment, culture, economic resources, media, and community composition. The settings in which the adolescent behaves are also influential, and these include the school classroom, school playground, neighbourhood, and public spaces. Poverty has a significant effect on the family, with parents from poor families more likely to use physical punishment and be less responsive to their children’s needs (Hoff, Laursen, & Tardiff, 2002; Magnuson & Duncan, 2002). Further, children who grow up in poor families have fewer opportunities for learning in the home, and in the community (Magnuson & Duncan, 2002).
Finally, the *Time* component of an ecological analysis refers to the changing expectations within society for adolescent development (Lerner et al., 2002). The importance of understanding the family ecology was expressively stated by Patterson et al. (1992) when they noted that their sample of families were continually faced with problems such as job loss, stress and poverty, and the effects of context on a family could not be excluded. Therefore, for a thorough understanding of monitoring the research must reveal the contextual issues that influence parent-adolescent interactions and parents' capacity to monitor.

**Conclusion on Theoretical Issues**

This theoretical background on parental monitoring has revealed that an understanding of the multiple layers of influence (Stormshak & Dishion, 2002) is critical. A figure summarising the theoretical areas of importance is shown below (Figure 2). At the core, and of paramount importance, is the relationship quality of parents and adolescents. This was seen as essential across all levels of this analysis, and in all theoretical approaches. Therefore, in understanding monitoring we would expect the empirical research to examine the quality of this relationship.

The social interactional model of the interactions between parents and adolescents was described as a means of understanding the micro-social processes of daily interactions. Behavioural research has shown that contingency shaping has a powerful effect on both parents and adolescents. In families where coercion or avoidance have become typical, an understanding of the way this is likely to shape monitoring may be necessary to effect change. With increasing adolescent
independence, verbal rule-making is necessary for parents to monitor, and the principles of rule-governed behaviour reveal that the way rules are enacted may influence their effectiveness.

Developmental theories of adolescence reveal that a strong parent-adolescent relationship is an important ingredient to ease the transition. Adolescents increasingly seek independence and time away from their families, and they are likely to have differing views on the granting of behavioural autonomy. Communication in adolescence is marked by frequent low-level conflict, even in typically developing families. The disclosure patterns of adolescents are thought to reduce with age, and there were some differences in adolescent disclosure by gender. While the present author contends that trust and deceit are likely to be important in monitoring, the developmental research on these areas is minimal, although, there is a suggestion that these aspects also change across the developmental span of adolescence.

The models of parenting show that the parent-adolescent relationship quality also impacts effective parenting. The social interactional model of parenting revealed that motivational factors, values, goals, and beliefs, and also behavioural management influence a parent’s monitoring. A typological approach to parenting was also reviewed, as it is often perceived that neglectful parents are the most likely not to monitor. This approach is useful for clustering the parenting variables that are highly correlated in families exhibiting poor monitoring; however, there is a risk of stereotyping parents into loosely fitting categories. A parent’s capacity to monitor is also likely to be influenced by poor health, mental illness, and other psychosocial stressors.

An analysis of the family must be understood within their context. Monitoring of adolescents is likely to be influenced by peers, neighbourhoods, communities, and
culture. Adolescents view their peers as important collaborators on everyday events, but tend to turn to parents for important decision-making. With an understanding of these theoretical issues and assumptions the next chapter will present a review of the monitoring literature.

Figure 2. Theoretical issues in parental monitoring
CHAPTER 2 - REVIEW OF PARENTAL MONITORING LITERATURE

This chapter presents a comprehensive review of research on the parental monitoring construct. The overall objective is to make clear the strengths and weaknesses in monitoring research, and to highlight areas for further research. After outlining the structure and search strategies used, the review begins with an analysis of the methodological quality and methodological issues. These aspects are discussed first, because they reveal the foundation on which parental monitoring research has developed. Furthermore, they reveal important issues of methodological rigour and provide a filter for the interpretation of research results.

In discussing the research results, correlational and experimental results are discussed separately. First, the correlational research between parental monitoring and adolescent externalising behaviours is discussed, and this is followed by correlational research on monitoring and internalising behaviours. Second, the review proceeds to examine the correlational research that has measured the relationships between parental monitoring and adolescent development, along with parent-adolescent relationships. Third, the review will examine research on family structure, parenting style, and contextual factors and the contribution they have to monitoring. Fourth, a summary of the correlational research is presented, with particular emphasis on interpreting the direction of effects and causality issues in monitoring research. Fifth, results from the few
experimental manipulations of monitoring are discussed. Finally, the review concludes with a discussion of future implications for research and practice.

Search strategy

Parental monitoring research was identified by searching the biomedical and social sciences databases (PsychINFO 1840-current, MEDLINE 1993-current, ERIC 1966-Current, National Criminal Justice Reference Service Abstracts 1975-Current, Social Services Abstracts 1980-Current, Sociological Abstracts 1963-Current, and Dissertation Abstracts International, and The Cochrane Library). In order to ensure that relevant studies were not missed the search terms remained broad (parental monitoring, parental supervision, and monitoring anywhere in title or abstract) and the participant groups included parents, children, and adolescents. No language restrictions were employed.

Selection criteria

Studies were eligible for inclusion in this review if (a) there was at least one variable labelled monitoring or supervision, (b) the focus of the study was parental management of behaviour in middle childhood or adolescence, and (c) the study measured the interactions of parents and adolescents. Studies were excluded from the review if parental monitoring related to children under school age (for example, monitoring of toddler safety in the kitchen), or if monitoring did not relate to child or free-time use (for example, parental monitoring of child compliance with medication, or monitoring of homework completion).
Description of Studies

A total of 309 abstracts matching the search criteria were reviewed. Of these 259 were published articles, and 50 were dissertations. From these abstracts, 145 studies were found to match the inclusion criteria because they included parental monitoring or supervision as a variable, and they also measured some form of adolescent behaviour. Next, following article reviews, 28 studies were excluded because either (a) the monitoring measures were insufficiently described, or (b) the study lacked methodological rigour, or (c) monitoring was only a minor variable in the study and therefore did not contribute important information to this review. The remaining 113 correlational studies and 4 experimental studies are included in this review. The correlational studies are summarised in Table 2, and all studies measured the association between parental monitoring and various forms of parent or adolescent attributes, using either cross-sectional longitudinal designs. Only four experimental studies were found where monitoring was a key variable that was manipulated as part of a parent-adolescent intervention. Details of these studies are shown in Table 3.
### Summary of Correlational Studies of Parental Monitoring

<table>
<thead>
<tr>
<th>Study</th>
<th>Results</th>
<th>N Parents</th>
<th>N Adol.</th>
<th>Age of Adol.</th>
<th>Sample Description</th>
<th>M to F Ratio</th>
<th># &amp; (scale) SRQ to Parent</th>
<th># &amp; (scale) SRQ to Adol.</th>
<th>r for P &amp; A</th>
<th>Alternate Methods</th>
<th>Scale Reliability</th>
<th>Origin and description of PM measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ary, Duncan, Duncan, &amp; Hops (1999)</td>
<td>Family conflict and poor involvement predicted poor PM. PM predicted associations with deviant peers and problem behaviour. A test of Patterson et al. 1992 model using SEM.</td>
<td>196</td>
<td>196</td>
<td>M 15.98 SD 0.54</td>
<td>45.1% single families</td>
<td>51:49</td>
<td>3 (5)</td>
<td>3 (5)</td>
<td></td>
<td></td>
<td></td>
<td>Based on (Capaldi &amp; Patterson, 1989). Disclosure (2), Rule (1)</td>
</tr>
<tr>
<td>Ary, Duncan, Biglan et al. (1999)</td>
<td>More rigorous test of model in previous study. Similar findings.</td>
<td>523</td>
<td>523</td>
<td>14-17</td>
<td>From clinical trial of anti-smoking program</td>
<td>35:65</td>
<td>3 (5)</td>
<td>(?)</td>
<td></td>
<td></td>
<td></td>
<td>As above. Based on (Capaldi &amp; Patterson, 1989).</td>
</tr>
<tr>
<td>Baker et al. (1999)</td>
<td>Direct PM when with peers associated with lower alcohol and cigarette use. Direct PM associated with more contraception use</td>
<td>174</td>
<td></td>
<td>M 14.5</td>
<td>Sexually active girls from an adolescent clinic of unspecified type</td>
<td>0:100</td>
<td>7 (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Author own questions on direct supervision and knowledge. Loaded items to 3 factors - direct, direct while with friends, and indirect</td>
</tr>
<tr>
<td>G. M. Barnes &amp; Farrell (1992)</td>
<td>High PM consistently associated with lower drinking, drug, deviance, and school misconduct. Consistent regardless of parent or adolescent report. Rules as separate construct, also significant.</td>
<td>699</td>
<td>699</td>
<td>13yr-160 14yr-192 15yr-184 16yr-163</td>
<td>Random dialling African-American over sampled to 30%</td>
<td>46:54</td>
<td>2</td>
<td>2</td>
<td>α = .64 A</td>
<td>α = .63 P</td>
<td></td>
<td>Two items for adolescents, and two for mothers. How often tell parents were going (a) after school, and (b) at weekend</td>
</tr>
</tbody>
</table>

Legend: P = parents, A = adolescent or child, PM = parental monitoring, SRQ = self report questionnaire, T1 = time one, Tx = treatment, Ctl = control group, RCT = randomised controlled trial  ? = unclear in study
<table>
<thead>
<tr>
<th>Study</th>
<th>Results</th>
<th>N</th>
<th>N</th>
<th>Age of</th>
<th>Sample Description</th>
<th>M to F Ratio</th>
<th>&amp; (scale) SRQ to Parent</th>
<th>&amp; (scale) SRQ to Adol.</th>
<th>r for P &amp; A</th>
<th>Alternate Methods</th>
<th>Scale Reliability</th>
<th>Origin and description of PM measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>G. M. Barnes, Reifman, Farrell, &amp; Dintcheff (2000)</td>
<td>High PM associated with lower alcohol and diminished dev. trajectory of alcohol use. Longitudinal 6 wave study using latent growth modelling</td>
<td>506</td>
<td>T1 M 14.5 to T6 M 19.9</td>
<td>Random dialling. African-American over sampled to 29%</td>
<td>42:58</td>
<td>2 (5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>α = .64</td>
</tr>
<tr>
<td>G. M. Barnes, Welte, Hoffman, &amp; Dintcheff (1999)</td>
<td>PM predicted alcohol use, but not gambling across two samples</td>
<td>S1 514</td>
<td>S2 625</td>
<td>M 19, M 19</td>
<td>Random dialling, more from high risk suburbs</td>
<td>S1 42:58</td>
<td>S2 100.0</td>
<td>5 (5)</td>
<td></td>
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<tr>
<td>Barrera, Biglan, Ary, &amp; Li (2001)</td>
<td>Replication of (Ary, Duncan, Biglan et al., 1999) model. PM associated with deviant peers and problem behaviour. Subgroup differences. SEM analysis</td>
<td>1450</td>
<td>M 12.4</td>
<td>3 groups. Hispanic (546), Am. Indians (404), Caucasian (500), Rural areas</td>
<td>50:50</td>
<td>2 (5)</td>
<td></td>
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<td></td>
<td>Based on previous publication – (Ary, Duncan, Biglan et al., 1999), and (Capaldi &amp; Patterson, 1989). Knowledge and rules included in study</td>
</tr>
<tr>
<td>Beck, Boyle, &amp; Boekeloo (2003)</td>
<td>Frequent monitoring associated with lower alcohol risk behaviours. Found age differences. PM important in young age to reduce risk of alcohol</td>
<td>444</td>
<td>12-17</td>
<td>Recruited from medical practices</td>
<td>44:56</td>
<td>6 (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>α = .79</td>
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<tr>
<td>Study</td>
<td>Results</td>
<td>N</td>
<td>N</td>
<td>Age of Adol.</td>
<td>Sample Description</td>
<td>M to F Ratio</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adol.</td>
<td>r for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
<td>Origin and description of PM measures</td>
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<tr>
<td>Beck, Ko, &amp; Scaffa (1997)</td>
<td>Parents report PM increased awareness of alcohol use</td>
<td>216</td>
<td>(?)</td>
<td></td>
<td>Random dialling</td>
<td>(?)</td>
<td>4 (var)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Parental solicitation and info gathering</td>
</tr>
<tr>
<td>Beyers, Bates, Pettit, &amp; Dodge (2003)</td>
<td>Neighbourhood structure had indirect effect. Unstable neighbourhoods moderated the relationship between PM and externalising behaviours. Low PM associated with more unsupervised time in community. Longitudinal sample, single measurement point.</td>
<td>440</td>
<td>440</td>
<td>11-13 at T1</td>
<td>Part of CDP longitudinal study. Same sample group as (Pettit, Bates, Dodge, &amp; Meece, 1999) and (Laird, Pettit, Bates, &amp; Dodge, 2003; Laird, Pettit, Dodge, &amp; Bates, 2003)</td>
<td>52:48</td>
<td>9 (5)</td>
<td>.52 to .66.</td>
<td></td>
<td>Time alone, plus activity schedule and recall of days activity</td>
<td>α = .73</td>
<td>PM 9 items responded to by parents. PM questions based on (Capaldi &amp; Patterson, 1989)</td>
</tr>
<tr>
<td>Biglan, Duncan, Ary, &amp; Smolkowski (1995)</td>
<td>PM and peer deviance at T2 predicted smoking at T3</td>
<td>608</td>
<td>14-17</td>
<td></td>
<td>From smoking cessation program</td>
<td>37:63</td>
<td>3 (5)</td>
<td></td>
<td></td>
<td></td>
<td>Three questions asked of parents. Knowledge and supervision</td>
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<tr>
<td>Study</td>
<td>Results</td>
<td>N</td>
<td>N</td>
<td>Age of</td>
<td>Sample Description</td>
<td>M to F Ratio</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adol.</td>
<td>r for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
<td>Origin and description of PM measures</td>
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<tr>
<td>Borawski, Ievers-Landis, Lovegreen, &amp; Trapl (2003)</td>
<td>Extended PM by including Negotiated Unsupervised Time (NUT). Increased NUT associated with increased sex alcohol and marijuana. High PM associated with lower alcohol use in boys. Some gender and age differences in PM. Parent trust also included (PT)</td>
<td>692</td>
<td></td>
<td>15.7</td>
<td>School, passive parental consent used. Refusal rate 3%.</td>
<td>50:50</td>
<td>6 (5) on PM</td>
<td>4 (5) on NUT</td>
<td>2 (5) PT</td>
<td></td>
<td>α = .88, α = .70, α = .71</td>
<td>PM from Silverberg and Small, then further developed and validated by Li. Content includes knowledge, rules, and disclosure.</td>
</tr>
<tr>
<td>Bray, Adams, Getz, &amp; Stovall (2001)</td>
<td>Detachment from parents moderated the effect of PM on alcohol use. Hierarchical linear modelling over three years. Adolescents measured one, two, or three times (1173 x1, 3636 x2, 2731 x3)</td>
<td>7540</td>
<td></td>
<td></td>
<td>School, passive consent. Diverse ethnic groups</td>
<td>49:51</td>
<td>7 (?)</td>
<td></td>
<td>α = .81</td>
<td></td>
<td></td>
<td>Assessment of Child Monitoring Scale (Hetherington &amp; Clingempeel, 1992). Knowledge questions (not listed)</td>
</tr>
<tr>
<td>Brendgen, Vitaro, Tremblay, &amp; Lavoie (2001)</td>
<td>PM moderated proactive aggression and delinquency. Longitudinal design</td>
<td>525</td>
<td>At 13, 14 and 15</td>
<td>Low SES area. 40% drop out over 3yrs</td>
<td>100:0</td>
<td>2 (4)</td>
<td></td>
<td>α = .72</td>
<td></td>
<td></td>
<td>Knowledge questions. Summed over the 3 yrs</td>
<td></td>
</tr>
<tr>
<td>Brendgen, Vitaro, &amp; Bukowski (2000)</td>
<td>Mixed association between delinquent friends and poor PM</td>
<td>232</td>
<td>T1 M 12.1, T3 2 yrs later</td>
<td>School sample, 90% response. Canadian</td>
<td>49:51</td>
<td>3 (4)</td>
<td></td>
<td>α = .78</td>
<td>Three knowledge items based on (LeBlanc, 1992)</td>
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<td>Study</td>
<td>Results</td>
<td>N</td>
<td>N</td>
<td>Age of</td>
<td>Sample</td>
<td>M to F</td>
<td>&amp; (scale) SRQ</td>
<td>&amp; (scale) SRQ</td>
<td>for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale</td>
<td>Origin and description of PM measures</td>
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<tr>
<td>Brody (2003)</td>
<td>High PM at T1 associated with high PM at T3. Maternal monitoring at T1 associated with decrease in problem behaviours over time. 3 wave longitudinal study</td>
<td>156</td>
<td>T1 11, T3 13</td>
<td>African-American, single parents households in Georgia</td>
<td>17 (4)</td>
<td>α = .90</td>
<td>Using 17-item scale adapted from Patterson and Stouthamer-Loeber, 1984. Mothers knowledge</td>
<td></td>
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<tr>
<td>Brown, Mounts, Lamborn, &amp; Steinberg (1993)</td>
<td>PM positively associated with academic achievement and negatively with substance use. Path model</td>
<td>3781</td>
<td>M 15.5</td>
<td>72% of school population</td>
<td>48:52</td>
<td>5 (3)</td>
<td>α = .80</td>
<td>Knowledge questions Modified from OYS studies.</td>
<td></td>
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<tr>
<td>Buckner, Mezzacappa, &amp; Beardslee (2003)</td>
<td>Study of resilient and non-resilient youths. Resilient youths significantly higher monitoring. Resilient youths OR for higher PM = 2.60.</td>
<td>155</td>
<td>12.0</td>
<td>Low income and/or one time homeless. Part of Worcester Family Research Project</td>
<td>47:53</td>
<td>2 (?)</td>
<td>α = .87</td>
<td>Items from NIMH Study (Shaffer et al. 1996). Mother only report on (a) how often know where child is, and (b) how often know who child is with</td>
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<tr>
<td>Bumpus et al. (2001)</td>
<td>Gender and autonomy differences in PM based on P knowledge of child report of their day</td>
<td>194</td>
<td>194</td>
<td>M 15.0 (for 1st born) &amp; M 12.5 (for 2nd born)</td>
<td>Part of previous authors' work. Dual and single earner families</td>
<td>P &amp; A</td>
<td>Asked 6 question</td>
<td>PM seven nights, of telephone calls on child's activity. Scores based on agreement between P &amp; A. Questions based on (Patterson &amp; Stouthamer-Loeber, 1984)</td>
<td></td>
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<tr>
<td>Study</td>
<td>Results</td>
<td>N</td>
<td>N</td>
<td>Age of</td>
<td>Sample Description</td>
<td>M to F Ratio</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adoles.</td>
<td>r  for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
<td>Origin and description of PM measures</td>
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<tr>
<td>Capaldi &amp; Patterson (1989)</td>
<td>Technical report of psychometric properties of PM scale.</td>
<td>206</td>
<td>206</td>
<td>11-12 at T1</td>
<td>Oregon Youth Study</td>
<td>100:0</td>
<td>6</td>
<td>.14</td>
<td></td>
<td>Phone P x 6 times</td>
<td>α = .53</td>
<td>(a) Child report 6 items, (b) Parent telephone report of hours with child, averaged over 6 times, (c) Global interviewer impression of how well child is monitored, and how well mother, father monitor child</td>
</tr>
<tr>
<td>Chilcoat &amp; Anthony (1996)</td>
<td>Poor PM in middle childhood associated with earlier drug use. High PM associated with 2yr delay. Measured yearly for 4 yrs. PM quartiles.</td>
<td>926</td>
<td></td>
<td>T1 8-10 T4 14</td>
<td>School prevention trial. High retention rate</td>
<td>45:55</td>
<td>10 (?)</td>
<td></td>
<td></td>
<td>Based on (Capaldi &amp; Patterson, 1989). No item detail</td>
<td></td>
<td></td>
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<tr>
<td>Chilcoat, Breslau, &amp; Anthony (1996)</td>
<td>Social disadvantage, single parenting and psychiatric disorder associated with lower PM in mothers</td>
<td>700</td>
<td>Mo</td>
<td>8-11</td>
<td>Mothers recruited at birth of child</td>
<td>47:53</td>
<td>10 (5)</td>
<td></td>
<td></td>
<td>Adapted from authors previous work and (Capaldi &amp; Patterson, 1989). No item detail. Authors state themes of rules, supervision, and knowledge.</td>
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<tr>
<td>Study</td>
<td>Results</td>
<td>N</td>
<td>N</td>
<td>Age of</td>
<td>Sample Description</td>
<td>M to F Ratio</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adol.</td>
<td>r for P &amp; A</td>
<td>Alternate Methods</td>
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<tr>
<td>Coley &amp; Hoffman (1996)</td>
<td>Neighbourhood safety interacts with PM</td>
<td>355</td>
<td>355</td>
<td>3rd-4th grade (no age)</td>
<td>School in lower SES area</td>
<td>48:52</td>
<td>.76 P &amp; A</td>
<td>Open-ended quest. Interview P &amp; A</td>
<td>r_{xx} = .90</td>
<td>Coders ranked children into 3 levels – Supervised, Unsupervised but monitored, and unsupervised/ unmonitored</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criss, Shaw, &amp; Ingoldsby (2003)</td>
<td>Positive mother-son synchrony related to higher PM</td>
<td>122</td>
<td>10</td>
<td></td>
<td>Low income families. 55% single parents Part of longitudinal study.</td>
<td>100:0</td>
<td>9 (?)</td>
<td></td>
<td></td>
<td></td>
<td>α=.63</td>
<td>Adapted from (Dishion, Patterson, Stoolmiller, &amp; Skinner, 1991). Content includes discussion of friends, involvement in schoolwork, and knowledge</td>
</tr>
<tr>
<td>Crouter &amp; Manke (1997)</td>
<td>Parents in low stress dual earner families associated with higher PM than high status dual earner families, and main-secondary provider families. Mothers monitored more than fathers did.</td>
<td>152</td>
<td>152</td>
<td>M 10 SD 0.6</td>
<td>Penn State Family Project Non divorced dual and single earner Same sample as 1990 study</td>
<td>44:56</td>
<td>Interview P &amp; A 6 items</td>
<td>Same as Crouter, MacDermid, McHale, &amp; Perry-Jenkins (1990)</td>
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<tr>
<td>Crouter, Manke, &amp; McHale (1995)</td>
<td>Mothers were higher monitors than fathers were. Monitoring increased over time (T2 measured one year later)</td>
<td>152</td>
<td>152</td>
<td>M 10 SD 0.6</td>
<td>Penn State Family Project non divorced dual and single earner. Same sample as 1990 study</td>
<td>44:56</td>
<td>Interview P &amp; A 6 items</td>
<td>Same as Crouter, MacDermid, McHale, &amp; Perry-Jenkins (1990)</td>
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<tr>
<td>Study</td>
<td>Results</td>
<td>N Parents</td>
<td>N Adol.</td>
<td>Age of Adol.</td>
<td>Sample Description</td>
<td>M to F Ratio</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adol.</td>
<td>r for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
<td>Origin and description of PM measures</td>
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<tr>
<td>Crouter, Helms-Erikson, Updegraff, &amp; McHale (1999)</td>
<td>Examined correlates of mothers and father knowledge about child daily activities. Compared first born with second born</td>
<td>198</td>
<td>198</td>
<td>M 10.9 SD 0.54 for 1st born, &amp; M 8.3 SD 0.92 for 2nd born</td>
<td>Penn State Family Project Non-divorced two parent families. Middle SES</td>
<td>47:53</td>
<td></td>
<td></td>
<td></td>
<td>Interview P &amp; A 6 items</td>
<td>r_{xx} = .96</td>
<td>Same as Crouter, MacDermid, McHale, &amp; Perry-Jenkins (1990)</td>
</tr>
<tr>
<td>Crouter, MacDermid, McHale, &amp; Perry-Jenkins (1990)</td>
<td>PM associated with lower grades in boys. Mothers higher PM knowledge than fathers</td>
<td>152</td>
<td>152</td>
<td>M 10 SD 0.6</td>
<td>Penn State Family Project non divorced dual and single earner</td>
<td>44:56</td>
<td></td>
<td></td>
<td></td>
<td>Interview P &amp; A 6 items</td>
<td></td>
<td>PM seven nights, of telephone calls on child's activity. Questions based on Patterson and Stouthamer, 1984</td>
</tr>
<tr>
<td>Crouter &amp; McHale (1993)</td>
<td>Differences in father monitoring over summer, as a function of mother work status. 3 phases of data analysed (winter, summer, winter)</td>
<td>125</td>
<td>125</td>
<td>M 10</td>
<td>Penn State Family Project Non-divorced two parent families. Middle SES</td>
<td>45:55</td>
<td></td>
<td></td>
<td></td>
<td>Interview P &amp; A 6 items</td>
<td></td>
<td>Same as Crouter, MacDermid, McHale, &amp; Perry-Jenkins (1990)</td>
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<td>Study</td>
<td>Results</td>
<td>N</td>
<td>Age of Adol.</td>
<td>Sample Description</td>
<td>M to F Ratio</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adol.</td>
<td>r for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
<td>Origin and description of PM measures</td>
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<td>DiClemente et al. (2001)</td>
<td>Poor PM increased likelihood of STD, multiple sexual partners, not using condom, and risky sex. Poor PM higher likelihood of marijuana use</td>
<td>522</td>
<td>14-18</td>
<td>All African-American, sexually active</td>
<td>0:100</td>
<td>2 (5)</td>
<td></td>
<td></td>
<td></td>
<td>Knowledge questions. 2 groups – high and low PM</td>
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<tr>
<td>Dishion, Capaldi, Spracklen, &amp; Fuzhong (1995)</td>
<td>Ineffective PM associated with boys’ involvement in deviant peer network. Strong association between substance use amongst peers, and low PM. Longitudinal. Delinquency measured at 17-18yrs.</td>
<td>206</td>
<td>10.0, T2 M 13-14</td>
<td>2 cohorts from OYS</td>
<td>100:0</td>
<td>6</td>
<td>Interview P x 6 times Interview rating (1 item) See (Capaldi &amp; Patterson, 1989)</td>
<td>Multimethod as detailed in (Capaldi &amp; Patterson, 1989).</td>
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<tr>
<td>Dishion, Patterson, Stoolmiller, &amp; Skinner (1991)</td>
<td>Poor PM at 10yrs predicted antisocial peers at 12yrs</td>
<td>102 and 104</td>
<td>10 yrs</td>
<td>2 cohorts from OYS</td>
<td>100:0</td>
<td>6</td>
<td>.15 P &amp; A Interview P x 6 times Interview rating (1 item)</td>
<td>Quest. α=.59, α=.49, &amp; retest r=.68 IR.51 Multimethod as detailed in (Capaldi &amp; Patterson, 1989).</td>
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<tr>
<td>Donenberg, Wilson, Emerson, &amp; Bryant (2002)</td>
<td>PM predicted increased sex risk behaviour. No gender differences</td>
<td>169</td>
<td>M 15.45 SD 1.76</td>
<td>Adolescents seeking mental health services</td>
<td>4 (5)</td>
<td>'as previously published' 1990 questionnaire on rules and knowledge. Took follow-up measure on parents r =.26, details of parent sample not specified</td>
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<td>Study</td>
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<td>N</td>
<td>N</td>
<td>Age of</td>
<td>Sample Description</td>
<td>M to F Ratio</td>
<td>&amp; (scale) SRQ to Parent</td>
<td>&amp; (scale) SRQ to Adol.</td>
<td>r for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
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<tr>
<td>Flannery, Vazsonyi, Torquati, &amp; Fridrich (1994)</td>
<td>PM not significant predictor of substance use when parent, peer, and personality variables included in analysis</td>
<td>1170</td>
<td>12.7</td>
<td>6 (?)</td>
<td>Schools, passive consent</td>
<td>52:48</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>α = .77</td>
<td>4 Items from Patterson &amp; Dishion, 1985, plus 2 content items. Items not listed.</td>
</tr>
<tr>
<td>Flannery, Williams, &amp; Vazsonyi (1999)</td>
<td>PM associated with unsupervised time with peers, aggression, delinquency, substance use, and peer pressure.</td>
<td>1170</td>
<td>12.7</td>
<td>0.67</td>
<td>School sample, 83% response</td>
<td>52:48</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>α = .77</td>
<td>PM 4 items adapted from Patterson &amp; Dishion 1985.</td>
</tr>
<tr>
<td>Fletcher, Darling, &amp; Steinberg (1995)</td>
<td>Examine PM and peer influence on adolescent substance use over 2 years</td>
<td>6494</td>
<td>13.9</td>
<td>0.67</td>
<td>Patterson et al. (1984) measure for PM</td>
<td>5 (3)</td>
<td></td>
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<td></td>
<td>Patterson et al. (1984) measure for PM</td>
</tr>
<tr>
<td>Forehand, Miller, Dutra, &amp; Watts Chance (1997)</td>
<td>Higher PM related to lower deviance. Parent-adolescent communication not related to lower deviance</td>
<td>907 Mothers</td>
<td>15.3</td>
<td>0.79</td>
<td>n=431 Black, n=476 Hispanic</td>
<td>43:57</td>
<td>4 (4)</td>
<td>4 (4)</td>
<td>.25</td>
<td></td>
<td>α = .71</td>
<td>Based on Strictness/Supervision Scale, Steinberg et al. 1992. Knowledge items</td>
</tr>
<tr>
<td>Forgatch &amp; Stoolmiller (1994)</td>
<td>Tested mediation of emotions as context for PM. High contempt negatively impacted on supervision. Anger not related to supervision Moderating effect of humour</td>
<td>170</td>
<td>13.9</td>
<td>170</td>
<td>Oregon Youth Study</td>
<td>100:0</td>
<td>Interview A &amp; P</td>
<td>Refer to ODS technical report for full details</td>
<td>Parent and adolescent lab and telephone interviews. Based on (Capaldi &amp; Patterson, 1989).</td>
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<tr>
<td>Study</td>
<td>Results</td>
<td>N</td>
<td>N</td>
<td>Age of</td>
<td>Sample Description</td>
<td>M to F</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adol.</td>
<td>r for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
<td>Origin and description of PM measures</td>
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<tr>
<td>Gil-Rivas, Greenberger, Chen, &amp; Lopez-Lena (2003)</td>
<td>PM correlated with lower levels of depressive mood.</td>
<td>272</td>
<td>M 15.9</td>
<td>Mexican students. 100% participation</td>
<td>40:60</td>
<td>10 (4)</td>
<td></td>
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<td></td>
<td></td>
<td>Origin of scale not listed. Parental knowledge questions</td>
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<td>Study</td>
<td>Results</td>
<td>N</td>
<td>N</td>
<td>Age of Adol.</td>
<td>Sample Description</td>
<td>M to F Ratio</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adol.</td>
<td>r for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
<td>Origin and description of PM measures</td>
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<tr>
<td>Huebner &amp; Howell (2003)</td>
<td>PM by parent-adolescent communication significantly predicted sexual risk taking. No age or gender effects</td>
<td>1160</td>
<td>M 15.7</td>
<td>Schools in rural cities. 94% Caucasian</td>
<td></td>
<td>50:50</td>
<td>8 (5)</td>
<td></td>
<td></td>
<td></td>
<td>α = .82</td>
<td>From Small &amp; Kerns (1993). Knowledge, rules, Internet and TV use</td>
</tr>
<tr>
<td>Jacobson &amp; Crockett (2000)</td>
<td>PM associated with lower academic achievement, sexual activity, and delinquency. Gender, age, and maternal employment were moderating variables. Adolescents in older grades reported less monitoring</td>
<td>424</td>
<td>7th to 12 grades (no age, only grade based analysis)</td>
<td>Middle class rural area. 40% response</td>
<td></td>
<td>46:54</td>
<td>8 (4)</td>
<td></td>
<td></td>
<td></td>
<td>α = .85</td>
<td>Based on Brown et al. (1993). Knowledge based items</td>
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<tr>
<td>Jones, Forehand, Brody, &amp; Armistead (2003)</td>
<td>Examined association between context and PM. Poor PM associated with neighbourhood location and maternal depression, concurrently and longitudinally. Higher PM in urban areas (lower in rural). PM levels increased over 15mth period.</td>
<td>277</td>
<td>M 11.40</td>
<td>African American single mother families</td>
<td></td>
<td>50:50</td>
<td>17 (4)</td>
<td></td>
<td></td>
<td></td>
<td>α = .91</td>
<td>Monitoring and Control Questionnaire developed by authors, based on Patterson &amp; Stouthamer-Loeber, 1984 and Steinberg et al. 1992 Measured twice – 15mths</td>
</tr>
<tr>
<td>Study</td>
<td>Results</td>
<td>N</td>
<td>N</td>
<td>Age of</td>
<td>Sample Description</td>
<td>M to F Ratio</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adol.</td>
<td>r for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
<td>Origin and description of PM measures</td>
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<tr>
<td>Kerr et al. (1999)</td>
<td>Reinterpreted monitoring as knowledge. Knowledge derived mainly from spontaneous disclosure. Mediational role found for trust. Three factors as source of knowledge confirmed with factor analysis</td>
<td>1283</td>
<td>1283</td>
<td>14</td>
<td>Swedish schools, passive consent</td>
<td>9 (5) PM only</td>
<td>9 (5) PM only</td>
<td>.43</td>
<td></td>
<td></td>
<td>α = .69, α = .82</td>
<td>Authors own. Also items for: disclosure, solicitation, control, and trust. 5 items or each, 5 point scale Child disclosure (P &amp; A r = .41), Parental solicitation (P &amp; A r = .33), Parental control (P &amp; A r = .29), and Parental trust (P &amp; A r = .49)</td>
</tr>
<tr>
<td>Kerr &amp; Stattin (2000)</td>
<td>High PM associated with good adjustment. Disclosure most important predictor of knowledge.</td>
<td>1186</td>
<td>1186</td>
<td>14</td>
<td>Same sample as 1999 study</td>
<td>9 (5)</td>
<td>9 (5)</td>
<td>α = .69, α = .82</td>
<td></td>
<td></td>
<td>Authors own as Kerr &amp; Stattin (2000).</td>
<td></td>
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<tr>
<td>Study</td>
<td>Results</td>
<td>$N$ Parents</td>
<td>$N$ Adol.</td>
<td>Age of Adol.</td>
<td>Sample Description</td>
<td>M to F Ratio</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adol.</td>
<td>$r$ for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
<td>Origin and description of PM measures</td>
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<tr>
<td>King et al. (2001)</td>
<td>Low PM associated with increased suicidal ideation, even after adjusting for psychiatric disorder and SES variables</td>
<td>1285</td>
<td>1285</td>
<td>M 12.9 (for non suicidal), &amp; M 13.9 (for suicidal)</td>
<td>NIMH Epidemiology study on mental health. Sample: $n$ =1176 non-suicidal, $n$ = 109 with attempts or ideation.</td>
<td>53:47</td>
<td>(?)</td>
<td>(?)</td>
<td></td>
<td></td>
<td></td>
<td>Parental Monitoring Scale based on Dishion and colleagues 1991. No item detail. Used mean of parent and youth scores for analysis. Test-retest secondary citation from Patterson &amp; Stouthamer-Loeber, (1984)</td>
</tr>
<tr>
<td>Klein &amp; Forehand (2000)</td>
<td>High PM associated with lower levels of child depressive mood and disruptive behaviour</td>
<td>212</td>
<td>212</td>
<td>M 8.11 SD 1.9mths</td>
<td>African-American mothers, low SES. $n$ = 72 HIV positive</td>
<td>49:51</td>
<td>17 (4)</td>
<td></td>
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<td>Monitoring and Control Questionnaire measures at T1 and T2 (12mth). Adapted from Patterson &amp; Stouthamer-Loeber, (1984)</td>
</tr>
<tr>
<td>Laird, Pettit, Bates, &amp; Dodge (2003)</td>
<td>PM knowledge decreased over time for boys, but not girls. Decrease in PM associated with increase in delinquency. Longitudinal over 4 yrs. Evidence for bi-directional nature of PM.</td>
<td>396</td>
<td>396</td>
<td>14 (4mths) at T1 to 17yrs at T4</td>
<td>Part of CDP longitudinal study recruited from kindergarten, plus parents</td>
<td>50:50</td>
<td>3(5)</td>
<td>5 (3)</td>
<td></td>
<td></td>
<td></td>
<td>As previous study for adolescents, plus three parent report items assessing parents ability to monitor behaviour</td>
</tr>
<tr>
<td>Study</td>
<td>Results</td>
<td>N</td>
<td>M to F Ratio</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adol.</td>
<td>r for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
<td>Origin and description of PM measures</td>
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<tr>
<td>Laird, Pettit, Dodge, &amp; Bates (2003)</td>
<td>Greater PM knowledge associated with fewer behaviour problems over time. Mothers more PM knowledge than fathers. Mean PM scores mask individual trajectories. Single parent homes consistently lower monitoring. Gender effects with males decreasing slope 4yr longitudinal</td>
<td>426</td>
<td>T1 M 14 SD 4mths to T4 M 17</td>
<td>Part of CDP longitudinal study recruited from kindergarten</td>
<td>50:50</td>
<td>?</td>
<td>5 (3)</td>
<td>$\alpha = .65$ to $\alpha = .78$</td>
<td>Adapted from Brown et al. (1993), and Dishion et al. (1991). Knowledge items. Adolescent responses to items alternated between mother, father, and parents, $(r = .56)$</td>
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<tr>
<td>Li, Feigelman, &amp; Stanton (2000)</td>
<td>Low PM associated with sexual behaviour, substance use, drug trafficking, school truancy, and violent behaviour. Females perceived higher PM. PM perceptions decreased with age.</td>
<td>1159</td>
<td>9-17 45%&lt;11 55%≥12</td>
<td>African-American, low SES, 3 samples. No age break down</td>
<td>50:50</td>
<td>6 (5 or 3)</td>
<td>$\alpha = .70$ to $\alpha = .77$</td>
<td>From Silverberg &amp; Small. Rules, knowledge, and disclosure</td>
<td></td>
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<tr>
<td>Li, Stanton, &amp; Feigelman (2000)</td>
<td>Perception of being monitored consistent over 4 years. Looked at stability of PM over 4 years</td>
<td>1153</td>
<td>T1 383 to 141 at 4yrs</td>
<td>African American, low SES High attrition 20% remaining at 4 yrs</td>
<td>56:44</td>
<td>6 (5)</td>
<td>$\alpha = .87$ to $\alpha = .92$</td>
<td>From Silverberg &amp; Small. Rules, knowledge, disclosure</td>
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<tr>
<td>Study</td>
<td>Results</td>
<td>M to F Ratio</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adol.</td>
<td>r for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
<td>Origin and description of PM measures</td>
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<tr>
<td>Lloyd (2000)</td>
<td>Relationship between PM and deviant peer association. Measured annually over 5 years. Increase in PM over time associated with decrease in deviant peer association.</td>
<td>49:51</td>
<td>10 (var)</td>
<td></td>
<td></td>
<td></td>
<td>α = .57 to α = .69</td>
<td>Capaldi &amp; Patterson (1989). 10 item scale</td>
<td></td>
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<tr>
<td>Loeber et al. (2000)</td>
<td>Assessed stability of family interactions from 6 to 18yrs. Levels of poor PM increased over time using growth curve analysis over 5 years</td>
<td>100:0</td>
<td>4 (3)</td>
<td>4 (3)</td>
<td></td>
<td></td>
<td>α = .60 to α = .74</td>
<td>Four items. Knowledge. 5 x yearly measurements.</td>
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<tr>
<td>Longmore, Manning, &amp; Giordano (2001)</td>
<td>Examined effects of pre-adolescent parenting on adolescent sexual behaviour 4 yrs later</td>
<td>13 (var)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>α = .63</td>
<td>Own scale, three sets of questions to parents. (a) allowed time alone at home, (b) PM knowledge when child away from home, and (c) TV restrictions.</td>
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<td>Study</td>
<td>Results</td>
<td>N</td>
<td>N</td>
<td>Age of</td>
<td>Sample Description</td>
<td>M to F Ratio</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adol.</td>
<td>r for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
<td>Origin and description of PM measures</td>
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<tr>
<td>Luster &amp; Small (1994)</td>
<td>Higher risk sexually active males and females were less closely monitored</td>
<td>2567</td>
<td>13yr-498 14yr-507 15yr-504 16yr-508 17yr-436 18+114</td>
<td>Rural 89% of students within schools. 98% white</td>
<td>50:50</td>
<td>9 (?)</td>
<td></td>
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<tr>
<td>Luster &amp; Small (1997a)</td>
<td>Females with higher PM reported less sexual activity. Sexually abused females reported lower PM</td>
<td>10868</td>
<td>7-12th grade</td>
<td>92% white females</td>
<td>0:100</td>
<td>3 (5)</td>
<td></td>
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<tr>
<td>Martens (1997)</td>
<td>PM associated with deviance, family control, and SES. PM analysed using factor analysis. 2 factors emerged parental knowledge and parental concern (plus parental permission for girls only)</td>
<td>502</td>
<td>from 8th grade</td>
<td>School sample</td>
<td>56:44</td>
<td>11 (4)</td>
<td></td>
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<tr>
<td>Meschke &amp; Silbereisen (1997)</td>
<td>High PM predicted later initiation of sex. Some differences in East and West German odds ratios Odds of first sexual experience decreased with higher PM OR = 0.54 to 0.88</td>
<td>702</td>
<td>M 16.75</td>
<td>Former East &amp; West Germany. Stratified, non-random</td>
<td>49:51</td>
<td>2 (?)</td>
<td></td>
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<tr>
<td>Study</td>
<td>Results</td>
<td>N Parents</td>
<td>N Adol.</td>
<td>Age of Adol.</td>
<td>Sample Description</td>
<td>M to F Ratio</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adol.</td>
<td>r for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
<td>Origin and description of PM measures</td>
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<tr>
<td>Metzler, Biglan, Ary, &amp; Li (1998)</td>
<td>PM and rules stable over time (3 quarterly assessments) Also measured rule-making and rule enforcement as separate constructs.</td>
<td>174</td>
<td>5th, 6th, and 7th grade</td>
<td>65% at risk sample, and random sample for remainder Passive consent</td>
<td>53:47</td>
<td>5 (5)</td>
<td></td>
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<td></td>
<td></td>
<td>Adapted from Capaldi &amp; Patterson (1989). Items not listed. Reduced to 2 items for SEM</td>
</tr>
<tr>
<td>Mott, Crowe, Richardson, &amp; Flay (1999)</td>
<td>PM associated with lower rates of cigarette smoking</td>
<td>2352</td>
<td>9th grade</td>
<td>Schools, 91% participation.</td>
<td>55:45</td>
<td>2 (var)</td>
<td></td>
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<td></td>
<td>Author’s own (a) parents awareness of child after school, and (b) telephone contact with parents at work</td>
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<tr>
<td>Mounts (2001)</td>
<td>Two studies. Association between high PM and lower drug use, lower delinquent behaviour, and higher academic achievement. Moderate prohibiting of peer relationships also related to higher functioning.</td>
<td>71 &amp; 249</td>
<td>9th grade</td>
<td>School, approx 50% of students in the grade. Passive consent</td>
<td>46:54</td>
<td>5 (3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PM adapted from Dishion 1990, Dornbusch et al. 1985, and Patterson &amp; Stouthamer-Loeber, 1984. Knowledge questions. Also parental prohibition of time with peers.</td>
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<tr>
<td>Study</td>
<td>Results</td>
<td>N</td>
<td>M to F Ratio</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adol.</td>
<td>r for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
<td>Origin and description of PM measures</td>
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<tr>
<td>Oxford, Harachi, Catalano, &amp; Abbott (2001)</td>
<td>Rules and PM associated with antisocial peers. Correlation between rules and PM = .86. Measured at T1, followed by outcome measures at T2 at end of school year.</td>
<td>905</td>
<td>M 11.5</td>
<td>35% of sample on low income</td>
<td>54:46</td>
<td>7 (?)</td>
<td>PM</td>
<td>( \alpha = .56, \alpha = .72 )</td>
<td>PM knowledge questions, and six rules questions.</td>
<td></td>
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<tr>
<td>Pagani, Tremblay, Vitaro, Kerr, &amp; McDuff (1998)</td>
<td>Boys experiencing remarriage perceived less monitoring by both parents.</td>
<td>427</td>
<td>11-15</td>
<td>Part of 9-year longitudinal study Canadian. Montreal longitudinal study, recruited in kindergarten</td>
<td>100:0</td>
<td>2 (4)</td>
<td></td>
<td>( \alpha = .71 )</td>
<td>Two questions based on previous work. (a) know where they are, and (b) know whom with</td>
<td></td>
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</tr>
<tr>
<td>Pagani, Boulerice, Vitaro, &amp; Tremblay (1999)</td>
<td>Investigated if PM had direct or indirect effect between economic hardship and delinquency. PM significant direct effect, but did not mediate relationship between poverty and delinquency.</td>
<td>497</td>
<td>12 (for PM)</td>
<td>Canadian. Montreal longitudinal study, recruited in kindergarten</td>
<td>100:0</td>
<td>2 (4)</td>
<td></td>
<td>( \alpha = .71 )</td>
<td>PM parental knowledge items, plus rules 5 (4) items Also measured delinquency at 16yrs</td>
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<tr>
<td>Study</td>
<td>Results</td>
<td>N Parents</td>
<td>N Adol.</td>
<td>Age of Adol.</td>
<td>Sample Description</td>
<td>M to F Ratio</td>
<td># &amp; (scale) SRQ to Parent</td>
<td># &amp; (scale) SRQ to Adol.</td>
<td>r for P &amp; A</td>
<td>Alternate Methods</td>
<td>Scale Reliability</td>
<td>Origin and description of PM measures</td>
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<tr>
<td>Patterson &amp; Dishion (1985)</td>
<td>PM contributed directly to delinquent behaviour, and contributed indirectly through deviant peers.</td>
<td>136</td>
<td>136</td>
<td>M 13.4 &amp; M 16.3</td>
<td>Oregon Youth Study, School sample, from 4th, 7th, and 10th grades</td>
<td>100:0 2 5</td>
<td>Interview (1 item)</td>
<td>Test-retest r=.52</td>
<td>90% agree</td>
<td>P &amp; A phone x 5 times, A &amp; P phone diff. score</td>
<td></td>
<td>Four measures comprise monitoring scale. (1) Child interview, 5 questions of information shared with parents; (2) Mother interview, 2 questions on supervision; (3) Interviewer global impression; and (4) several telephone interviews comparing child and parent concordance on activity.</td>
</tr>
<tr>
<td>Patterson et al. (1990)</td>
<td>Transitions stressors in preadolescents associated with disrupted family exchanges. Disruptions correlated with ineffective discipline, which directly effected (statistically) monitoring.</td>
<td>206</td>
<td>206</td>
<td>T1 M 10.0 &amp; T2 13-14</td>
<td>2 cohorts from Oregon Youth Study</td>
<td>100:0 6</td>
<td>Phone P x 6 times, Interview (1 item)</td>
<td>As Capaldi &amp; Patterson (1989).</td>
<td></td>
<td>Multimethod as detailed in Capaldi &amp; Patterson (1989).</td>
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<tr>
<td>Patterson, Capaldi, &amp; Bank (1991)</td>
<td>Early-starter model. Low PM predictive of deviant peers at T3. High PM at T1 negatively correlated with antisocial behaviour and positively correlated with academic achievement</td>
<td>206</td>
<td>206</td>
<td>T1 M 10.0 &amp; T2 13-14</td>
<td>2 cohorts from Oregon Youth Study</td>
<td>100:0 6</td>
<td>Phone P x 6 times, Interview rating (1 item)</td>
<td>As Capaldi &amp; Patterson (1989).</td>
<td></td>
<td>Multimethod as detailed in Capaldi &amp; Patterson (1989).</td>
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<td>Results</td>
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<td>N Adol.</td>
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<tr>
<td>Patterson et al. (1992)</td>
<td>PM construct further developed. PM significant predictor of antisocial behaviour. Low PM associated with antisocial behaviour, poor academic skills, poor self-esteem, and depression.</td>
<td>206</td>
<td>206</td>
<td>T1 M 10.0 &amp; T2 13-14</td>
<td>2 cohorts from Oregon Youth Study</td>
<td>100:0</td>
<td>6</td>
<td>Phone P x 6 times Interview rating (1 item)</td>
<td>As Capaldi &amp; Patterson (1989).</td>
<td>Multimethod as detailed in Capaldi &amp; Patterson (1989).</td>
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<tr>
<td>Patterson &amp; Stouthamer-Loeber (1984)</td>
<td>PM associated with police contact and self-reported delinquency. PM highly correlated with discipline and reinforcement</td>
<td>73</td>
<td>76</td>
<td>M 10.1</td>
<td>Oregon Youth Study 3 samples from 4th, 7th, and 10th grades. 99% Caucasian.</td>
<td>100:0</td>
<td>2</td>
<td>Interview (1 item) Phone P x 6 times A &amp; P Phone diff. score</td>
<td>Test-retest r = .77</td>
<td>Four measures comprise monitoring scale. (1) Child 4 questions on information shared with parents; (2) Mother 2 questions on supervision; (3) Interviewer global impression; and (4) Telephone interviews comparing child and parent concordance on activity Also considered unsupervised hours.</td>
<td></td>
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<tr>
<td>Patterson &amp; Yoerger (1997)</td>
<td>Late-onset delinquency associated with disrupted PM, conflict, and family disruption</td>
<td>80</td>
<td>80</td>
<td>T1 11-12 T2 13-14</td>
<td>Oregon Youth Study</td>
<td>100:0</td>
<td>6</td>
<td>Interview rating (1 item) Phone P x 6 times</td>
<td></td>
<td>Multimethod as detailed in Capaldi &amp; Patterson (1989).</td>
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<td>Study</td>
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<td>N Adol.</td>
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<tr>
<td>Reifman, Barnes, Dintcheff, Farrell, &amp; Uhleg (1998)</td>
<td>Low PM associated with adolescent advancement to heavier drinking. 3 wave study, yearly intervals</td>
<td>612</td>
<td>T1</td>
<td>13-16</td>
<td>30% ‘black’.</td>
<td>46:54</td>
<td>2 (5)</td>
<td></td>
<td></td>
<td>Disclosure of whereabouts</td>
<td>α = .64</td>
<td></td>
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<tr>
<td>Richardson, Radziszewska, Dent, &amp; Flay (1993)</td>
<td>Association between low PM and problem behaviour</td>
<td>3993</td>
<td>9&lt;sup&gt;th&lt;/sup&gt; grade</td>
<td>Schools, 91% participation</td>
<td>48:52</td>
<td>2 (?)</td>
<td></td>
<td></td>
<td>Adult presence and parental knowledge</td>
<td></td>
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<tr>
<td>Study</td>
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<td>N</td>
<td>N</td>
<td>Age of</td>
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<tr>
<td>Rodgers-Farmer (2000)</td>
<td>PM associated with deviant peer group and substance use. PM at T1 not associated with substance use at T2.</td>
<td>8012</td>
<td>10th grade</td>
<td>Student population, representative.</td>
<td>46:54</td>
<td>5 (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>α = .82</td>
<td>Parental solicitation items, for example ‘parent tries to find out’ Measured 12th grade for T2 substance use PM</td>
</tr>
<tr>
<td>Romer et al. (1999)</td>
<td>High PM decreased likelihood of early initiation of sex. High PM associated with lower sexual risk taking.</td>
<td>355</td>
<td>9-17</td>
<td>African-American only. From housing only. Approx 80% single parent. Approx 100% below poverty line.</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>α = .65</td>
<td>PM questions based on Steinberg et al. 1994, plus Patterson and Stouthamer-Loeber, 1984. Disclosure, solicitation, rules</td>
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<tr>
<td>Rosenthal, Cohen, Biro, &amp; DeVellis (1996)</td>
<td>PM associated with expectation of support when facing sexually transmitted disease</td>
<td>150</td>
<td>M 14.5 SD 1.04</td>
<td>Adolescent sex clinic – 36% sexually experienced. 75% African-American</td>
<td>0:100</td>
<td>7 (?)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Items based on Nash (unpublished). Two factors found, labelled as direct and indirect monitoring</td>
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<td>Study</td>
<td>Results</td>
<td>N</td>
<td>N</td>
<td>Age of</td>
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<tr>
<td>Sagrestano, Paikoff, Holmbeck, &amp; Fendrich (2003)</td>
<td>Increased conflict and decreased PM associated with increase in child depressive symptomatology</td>
<td>302</td>
<td>279</td>
<td>T1 10.96 SD 0.70 T2 M 12.96 SD 0.77</td>
<td>African-American, low SES</td>
<td>44:56</td>
<td>21(5) at T1 10(5) at T2</td>
<td>T1 α = .71  T2 α = .42</td>
<td></td>
<td>Adapted from Gorman-Smith et al. 1996, and Lamborn et al. 1991. No item detail, unclear number of items for P &amp; A</td>
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<tr>
<td>Sampson &amp; Laub (1994)</td>
<td>Low PM mediated the effects of poverty on delinquency. Family processes mediated 67% of the effect of poverty on delinquency.</td>
<td>1000</td>
<td>(?)</td>
<td>M 14.8</td>
<td>Reanalysed Glueck &amp; Glueck's original data from 1940's sample of delinquent and low SES males</td>
<td>100:0</td>
<td>Interview parents plus interview rating</td>
<td>Maternal supervision coded on 3 point scale by interviewer</td>
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<tr>
<td>Singer et al. (1999)</td>
<td>Violence exposure and PM associated with violent behaviours</td>
<td>2245</td>
<td>51:49</td>
<td>7 (4)</td>
<td>School sample, 80% participation</td>
<td>α = .76</td>
<td>Adapted from Flannery at al. 1994. Knowledge and rules, plus one punishment</td>
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<tr>
<td>Slovak (2002)</td>
<td>Low PM associated with higher exposure to gun violence</td>
<td>From school based behavioural support program</td>
<td>45:54</td>
<td>7 (4)</td>
<td></td>
<td></td>
<td></td>
<td>( \alpha = .81 )</td>
<td>Adapted from Flannery et al. 1994. Knowledge, plus one punishment question for rule-breaking from Singer et al. 1998</td>
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<tr>
<td>Slovak &amp; Singer (2001)</td>
<td>Association between youths reporting higher gun violence and lower PM</td>
<td>Rural sample, mostly white</td>
<td>53:47</td>
<td>7 (4)</td>
<td></td>
<td></td>
<td></td>
<td>( \alpha = .76 )</td>
<td>Adapted from Flannery et al. 1994</td>
<td></td>
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<tr>
<td>Small &amp; Kerns (1993)</td>
<td>Unwanted sexual contact and vulnerability associated with lower PM</td>
<td>Schools</td>
<td>0:100</td>
<td>8 (?)</td>
<td></td>
<td></td>
<td></td>
<td>( \alpha = .87 )</td>
<td>Adapted from Patterson &amp; Stouthamer-Loeber (1984). Items detail not provided.</td>
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<tr>
<td>Small &amp; Luster (1994)</td>
<td>Low PM associated with increased sexual experience</td>
<td>Schools</td>
<td>47:53</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td>( \alpha = .87 )</td>
<td>From Small &amp; Kerns (1993) PM scale. Knowledge and interest</td>
<td></td>
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<tr>
<td>Smetana &amp; Daddis (2002)</td>
<td>PM higher for females, and higher when adolescents believe parents have legitimate authority to regulate. Longitudinal, T2 2yrs later.</td>
<td>African-American, middle class.</td>
<td>50:50</td>
<td>4 (5)</td>
<td>4 (5)</td>
<td>T1 .32</td>
<td>T2 .17</td>
<td>P ( \alpha = .74 ) A ( \alpha = .67 )</td>
<td>Based on Steinberg et al. 1991. Three factors found, communication, rules, and awareness</td>
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<td>Study</td>
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<td>N Parents</td>
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<td>Statin &amp; Kerr (2000)</td>
<td>Called for reinterpretation of PM as knowledge. Disclosure best source of knowledge. Higher parental solicitation linked to higher norm-breaking, disclosure negatively correlated with norm-breaking.</td>
<td>703</td>
<td>703</td>
<td>14</td>
<td>Swedish students. 92% participation, passive consent</td>
<td>9 (5)</td>
<td>9 (5)</td>
<td></td>
<td></td>
<td></td>
<td>$\alpha = .69$ to $\alpha = .82$</td>
<td>Authors own as Kerr et al. (1999).</td>
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<tr>
<td>Svensson (2000)</td>
<td>PM associated with drug use. Poor PM and drug use OR 1.509, alcohol 1.574, tobacco 1.252</td>
<td>467</td>
<td>14-15</td>
<td></td>
<td>Sweden 88% response</td>
<td>50:50</td>
<td>2 (5)</td>
<td></td>
<td></td>
<td></td>
<td>$\alpha = .73$</td>
<td>(1) know where you are, (2) know whom you meet</td>
</tr>
<tr>
<td>Svensson (2003)</td>
<td>Females more monitored than males. Interaction of PM and deviant peers for boys and girls</td>
<td>467</td>
<td>14-15</td>
<td></td>
<td>Sweden, 2 samples combined.</td>
<td>50:50</td>
<td>2 (5)</td>
<td></td>
<td></td>
<td></td>
<td>$\alpha = .74$ to $\alpha = .77$</td>
<td>As Svensson (2000)</td>
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<td>Study</td>
<td>Results</td>
<td>N Parents</td>
<td>N Adol.</td>
<td>Age of Adol.</td>
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<tr>
<td>Thomas, Reifman, Barnes, &amp; Farrell (2000)</td>
<td>Family structure, gender, and age mediated by monitoring. PM associated with later alcohol misuse. PM did not predict sexual risk taking</td>
<td>561</td>
<td>15-18</td>
<td>Random digit dialing Longitudinal. 3 waves</td>
<td>5 (5)</td>
<td>$\alpha = .81$</td>
<td>PM at time 3 only. Knowledge, disclosure, rules</td>
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<tr>
<td>Tiet et al. (1998)</td>
<td>Measured resilience and adversity. Children at risk because of life adversity exhibited greater resilience when PM was high. Odd ratio for PM in full sample 1.60 ($p = .042$). PM not significant in low-risk sub sample</td>
<td>1285</td>
<td>9-17</td>
<td>Epidemiology sample from four locations, 46% of children had DSM-III diagnosis</td>
<td>13 (?)</td>
<td>Based on Dishion et al.1991, Kandel 1990, and Cohen &amp; Brook 1987.</td>
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<tr>
<td>Tiet et al. (2001)</td>
<td>Greater resilience in presence of maternal psychopathology when PM is high.</td>
<td>1285</td>
<td>9-17</td>
<td>Epidemiology sample from four locations. (as 1998), 29% of mothers with lifetime psychiatric problem</td>
<td>53:47</td>
<td>13 (?)</td>
<td>As Tiet et al. (1998)</td>
<td></td>
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<tr>
<td>Vazsonyi &amp; Flannery (1997)</td>
<td>PM significant predictor of delinquency and poor academic achievement. Positive association with high PM and positive family processes</td>
<td>1021</td>
<td>$M 12.8$ SD 0.66</td>
<td>School samples, 74% from 2 parent families. Passive consent</td>
<td>50:50</td>
<td>$\alpha = .77$</td>
<td>Four questions adapted from Patterson &amp; Dishion 1985, plus two author items</td>
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<tr>
<td>Vitaro, Brendgen, &amp; Tremblay (2000)</td>
<td>PM main but not moderating effect. PM did not predict delinquency, after controlling for delinquency at age 10</td>
<td>567</td>
<td>11-12</td>
<td>Longitudinal sample</td>
<td>100:0</td>
<td>2 (4)</td>
<td></td>
<td></td>
<td>α = .71</td>
<td>Knowledge items</td>
<td></td>
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<tr>
<td>Wasserman, Miller, Pinner, &amp; Jaramillo (1996)</td>
<td>PM significant relationship with externalising problems. Although mixed pattern over the 2 yrs</td>
<td>126</td>
<td>126</td>
<td>M 8.9</td>
<td>Brothers of convicted delinquents. 54% African-American, 44% Hispanic</td>
<td>100:0</td>
<td>9</td>
<td>8</td>
<td>.26</td>
<td>α = .59 α = .64</td>
<td>PM questions derived from Pittsburgh Youth study, Loeber et al. 1991. Knowledge based</td>
<td></td>
</tr>
<tr>
<td>Whitbeck, Hoyt, &amp; Ackley (1997)</td>
<td>Found low PM reported by parents and adolescents in runaway groups. Runaway group lower PM than two parent and single parent groups</td>
<td>120</td>
<td>120</td>
<td>16 (M)</td>
<td>Adolescents interviewed in street and homeless shelter. Plus comparison from population study</td>
<td>(?)</td>
<td>5 (4)</td>
<td>5 (4)</td>
<td></td>
<td>α = .67 to α = .70</td>
<td>Authors own. Parental knowledge, curfews, disclosure</td>
<td></td>
</tr>
</tbody>
</table>
Table 3

Summary of Experimental Studies of Parental Monitoring

<table>
<thead>
<tr>
<th>Study</th>
<th>Results</th>
<th>N</th>
<th>N</th>
<th>Age of Adoles.</th>
<th>Sample Description</th>
<th>M to F Ratio</th>
<th># &amp; (scale) SRQ to Parent</th>
<th># &amp; (scale) SRQ to Adoles.</th>
<th>r for P &amp; A</th>
<th>Alternate Methods</th>
<th>Scale Reliability</th>
<th>Origin and description of PM measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dishion, Nelson, &amp; Kavanagh (2003)</td>
<td>Family Check-up program. Control group decreased monitoring, whereas intervention group maintained PM practices. Parent intervention (3 x yearly sessions) effective in increasing PM and reducing delinquency</td>
<td>71</td>
<td>71 (35 Tx and 36 Ctl)</td>
<td>6th grade. Randomly assigned, high-risk adolescents and their families</td>
<td>40:60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Video-taped home observation with monitoring scenario used to measure PM Scored using 5 point scale by coders</td>
</tr>
<tr>
<td>Stanton et al. (2000)</td>
<td>Controlled trial of PM intervention (IMPACT). Using RCT, Largely safe sex and drug focus Tx. PM similarity between P &amp; A improved at 6mths (no concordance on PM)</td>
<td>237</td>
<td>237</td>
<td>M 13.6</td>
<td>African-American. From public housing development.</td>
<td>51:49</td>
<td>6 (5)</td>
<td>6 (5)</td>
<td></td>
<td></td>
<td></td>
<td>PM from Silverberg &amp; Small Monitoring Scale. Knowledge based questions. Intervention used video, plus home based,</td>
</tr>
</tbody>
</table>

Legend: P = parents, A = adolescent or child, PM = parental monitoring, SRQ = self report questionnaire, T1 = time one, Tx = treatment, Ctl = control group, RCT = randomised controlled trial
<table>
<thead>
<tr>
<th>Study</th>
<th>Results</th>
<th>N Parents</th>
<th>N Adol.</th>
<th>Age of Adol.</th>
<th>Sample Description</th>
<th>M to F Ratio</th>
<th># &amp; (scale) SRQ to Parent</th>
<th># &amp; (scale) SRQ to Adol.</th>
<th>r for P &amp; A</th>
<th>Alternate Methods</th>
<th>Scale Reliability</th>
<th>Origin and description of PM measures</th>
</tr>
</thead>
</table>
Before proceeding with an analysis of results shown in the parental monitoring research, it is necessary to discuss the methodological foundation on which the results rest. An examination of the research indicates there are three key methodological issues that arise from the research, and these must be kept in mind when considering the research outcomes. These key issues are (a) the definition of the monitoring construct, (b) the measurement of parental monitoring, and (c) the generalisation of research findings. Further discussion on each methodological issue follows.

Defining the Latent Construct of Parental Monitoring

A social interactional definition

As discussed in the previous chapter, Patterson and colleagues (Capaldi & Patterson, 1989; Patterson et al., 1992) developed parental monitoring as a latent construct for measurement in the Oregon Youth Study (OYS). The aim of the OYS research was to explain the development and maintenance of antisocial behaviour. The coercion model was used as a framework for measuring antecedents, behavioural responses, and consequences within family interactions. The coercion model established that analysis of daily parent-adolescent interactions at a micro-social level could elucidate the reinforcing contingencies that maintain problem behaviour. From this micro-social framework, parental monitoring had two key elements. First, the network of rules and expectations parents have concerning the amount of information they require from their adolescent; and second, how much time the adolescent is with
their parents (Capaldi & Patterson, 1989). Their definition of monitoring has been clearly stated as: parental awareness of the child’s activities, and communication to the child that the parent is concerned about, and aware of, the child’s activities (Dishion & McMahon, 1998). According to this OYS research definition, the parental monitoring construct needs to be defined and measured at a micro-social level, and it is the pattern of interaction between parents and adolescents that must be revealed in order to explain poor parental monitoring. Regrettably, this review will demonstrate that subsequent parental monitoring research has not built on this micro-social foundation.

Subsequent research definitions

Following the OYS research, the parental monitoring construct gained increasing importance in studies of child and adolescent problem behaviour. The large number of studies listed in Table 2 demonstrates that parental monitoring is now seen as a crucial factor in the development of adolescent problem behaviour. Surprisingly, the results are purported to build on the OYS research results, yet comparisons reveal the definition of parental monitoring is different in the majority of subsequent studies. In all but a few subsequent studies, parental monitoring was narrowly defined with the phrase ‘does the parent usually know where the child is?’ and self-report questions of retrospective parental knowledge were used to measure it. As discussed previously, the OYS researchers sought to explicate the rules and expectation parents have, the amount of information they require, and the time shared between parent and adolescent. The narrower definition used in the subsequent research indicates recent studies have not conceptualised the parental monitoring construct in the same manner as Patterson and his colleagues. Despite the changed definition, this narrower parental monitoring construct is also seen as a critical parenting factor in the development of problem behaviour.
Monitoring redefined as knowledge

Recently, Kerr and Stattin (Kerr & Stattin, 2000; Kerr et al., 1999; Stattin & Kerr, 2000) proposed an alternative definition of monitoring. They claim that parental monitoring measures have actually been measuring parental monitoring knowledge of adolescent activity, rather than parental tracking and supervision efforts. Stattin and Kerr propose that this knowledge depends on an adolescent’s willingness to disclose information to parents. In their series of self-report questionnaire studies, they found three factors were important predictors of parental monitoring knowledge: child disclosure (children spontaneously telling parents what they have been doing); parental solicitation (parents asking children what they have been doing); and parental control (rules and limit setting). The most important contributor of parental monitoring knowledge was child disclosure, and parental solicitation was associated with higher, not lower, problem behaviour. Stattin and Kerr (2000) called for a reinterpretation of parental monitoring as parental monitoring knowledge, and argue that this knowledge rests on an understanding of the factors that determine child disclosure, rather than parental activity.

Thus, it is evident that monitoring definitions have evolved over time. The original micro-social definition comprised parental knowledge, parent-adolescent interactions, and parental limit setting. This has been narrowed recently to become a construct that now purports to be only parental knowledge. A further examination of the content of measures and the measurement methodology will reveal what parental monitoring research has been measuring.
Measurement Methods of Parental Monitoring

The Oregon Youth Study measure of monitoring

Patterson and colleagues published two foundational studies, that provided detail of a new construct measure, which they labelled parental monitoring (Patterson & Dishion, 1985; Patterson & Stouthamer-Loeber, 1984), and then this work was followed by their seminal work in the Oregon Youth Study (OYS, Capaldi & Patterson, 1989; Patterson et al., 1992). These researchers provided substantial detail on their efforts to develop multiple methods of measuring parental monitoring. This included a parental questionnaire, interviews with fathers and mothers, repeated parent telephone interviews, repeated child telephone interviews, and a difference score, which compared parent and child reports.

The OYS measures assessed parental awareness, or knowledge, of the child’s activities, as well as time spent with the child, and unsupervised hours. From all these measures, only three were considered satisfactory and retained in the OYS research. The strongest indicator was an interviewer’s answer to the global scale ‘did the child seem well supervised by the parents?’ (Patterson et al., 1992). The other two indicators retained were a structured telephone interview administered separately to the child, and another to the parent. The global interviewer’s rating on how well the family monitored their child contributed most to the parental monitoring construct, with a regression weight of .93, compared with child report at .50 and parent report at .17. Patterson et al. (1992) reported the psychometric status of the parental report was poor, but it was retained in order to meet their multi-agent and multi-method standards.

Measures in subsequent research

One would expect future studies would have continued to refine the parental monitoring measure. Unfortunately, subsequent studies have seemingly ignored the measurement difficulty reported by Capaldi and Patterson (1989). In this review, 49
(43%) out of 113 studies stated their measure of monitoring was derived from Patterson and his colleagues’ published papers. Unfortunately, the rigorous multi-method approach of the OYS has not been adopted when subsequent authors have claimed to use the monitoring measure of the OYS. Most research has merely taken the self-report questions used in the telephone interview, and administered these questions using a self-report questionnaire to parents, adolescents, or both. As indicated previously, according to the OYS reports (Capaldi & Patterson, 1989; Patterson et al., 1992) the interviewer global rating was the most important predictor of monitoring, followed by the child self-report questionnaire, then the parent report of unsupervised time.

Of the remaining 64 studies reviewed, five authors claimed their measure was based on Small and Kerns (1993); however, an investigation of this study reveals that Small and Kerns used a measure adapted from Patterson and Stouthamer-Loeber (1984). A further six authors claimed their measure was based on a 1991 conference paper delivered by Silverberg and Small, four studies were based on Hetherington and Clingempeel (1992), and the balance of studies provide insufficient detail on the origin of their measures.

Across the 113 correlational studies reviewed in this research where parental monitoring was a key variable, excluding the 10 studies published by OYS researchers, 91 studies have used only questionnaires. Of these 91 studies, parents only were measured in 15, adolescents only in 58, and the 18 remaining studies measured both adolescents and parents. A mere 12 studies have reported alternative methodologies, and/or additional measures to complement self-report questionnaires (Beyers et al., 2003; Bumpus et al., 2001; Coley & Hoffman, 1996; Crouter et al., 1999; Crouter et al., 1990; Crouter & Manke, 1997; Crouter et al., 1995; Crouter & McHale, 1993;
Crouter et al., 1993; Kim et al., 1999; Pettit et al., 1999; Sampson & Laub, 1994), and each one of these studies will be discussed in detail later.

**Examination of Self-report Measures of Monitoring**

This review thus far has established that the large body of research comprises self-report data, and will now consider the structure and content of these self-report questions. The majority of parental monitoring questionnaires have 2 to 8 questions, and most use a Likert response scale. Commonly, scores are then summed to form a scale score on monitoring.

An examination of the question content reveals ambiguity is possible in participant interpretations. A hypothetical example will help to clarify the interpretation dilemma. Consider three different adolescents who are asked the most common parental monitoring question, ‘Do your parents usually know where you are after school?’ If, for example, adolescent A, B and C all responded with the same answer, *almost always* then they would all score 4-points on a Likert scale. However, in our hypothetical example, if we questioned these adolescents further we may find that major differences in attitude and family standards have influenced their answers. For example, the parents of adolescent-A may know he is ‘hanging out’ at the shops, but they are comfortable with that; they have a ‘boys will be boys’ attitude. The parents of adolescent-B may know she tries to hang out at the shops, but she is not allowed to, and there has been family conflict about it. Finally, the parents of adolescent-C may know where he is because they have clear rules forbidding him from hanging out at the shops and a parent directly supervises his free-time on most days. It is evident in this example that all the parents know where their adolescent is, and they all scored 4-points on the questionnaire. Nevertheless, each adolescent is monitored differently, and most practitioners would agree that adolescent-A is poorly monitored. This example
demonstrates that asking questions about monitoring, without asking about family beliefs, social cognitions, and norms for acceptable behaviour is problematic.

Stattin and Kerr (2000) have argued, based on their own measures, that monitoring ought to be redefined as parental knowledge of activity. In their series of studies the authors measured monitoring, using a standard nine question self-report scale delivered to parents and their 14-year-old adolescents. The authors then went on to develop and measure four constructs that might predict the parental monitoring construct. These were child disclosure, parental solicitation, parental control and parental trust. In a series of studies (Kerr & Stattin, 2000; Kerr et al., 1999; Stattin & Kerr, 2000), they found the best predictor of monitoring was child disclosure. Consequently, these researchers purported that other monitoring research had not measured parents’ tracking and skill behaviours, but had merely tapped into parental knowledge of adolescent activity. However, as Kerr and Stattin have no measure of parental tracking, parental behaviour, or parent-adolescent monitoring interactions it seems that a call for reinterpretation of this construct is somewhat premature. This present review of the measures used in monitoring demonstrates that the inability of monitoring research to measure the construct satisfactorily is more likely as a result of the narrow methods used to measure the construct, rather than a poorly defined construct.

Concordance Between Parent and Adolescent Self-reports

The concordance between parent and adolescent self-reports on parallel monitoring measures is often not reported, and when reported is generally quite low. Wasserman, Miller, Pinner, and Jaramillo (1996) reported a correlation of $r = .26$ amongst parents and boys aged 8.9 years ($N = 126$). Hartos and Power (2000a) reported a correlation of $r = .13$ amongst parent-adolescent dyads, aged 13.9 years. Pettit, Laird,
Dodge, Bates, and Criss (2001) reported a correlation of $r = .26$ among 13-year-old adolescents and their mothers. Forehand, Miller, Dutra, and Chance (1997) found correlations of $r = .25$ in a sample of 907 African-American and Hispanic mothers and their 15-year-old youth. In a longitudinal study of African-American families, where monitoring was measured across a 2-year interval, Smetana and Daddis (2002) reported parent-adolescent correlations of $r = .32$ at time one when adolescents were 13 years, and $r = .17$ at time two when they were 15 years of age. The Swedish study by Kerr, Stattin and Trost (Kerr et al., 1999) stands out with a markedly higher correlation of $r = .43$ from 14-year-old adolescents and their parents. Thus, correlations between parent and adolescent self-reports are moderate, ranging between .13 and .43, and therefore it is possible that parent and adolescent measures with low correlations may be independent. In addition, there is some evidence that the correlation reduces as adolescent age increases. This is possibly evidence of a typical reduction in parental knowledge that corresponds with adolescent striving for greater independence.

Generally, parents and adolescents do not report equivalent levels of parental monitoring knowledge. It is thought that parental self-reports of monitoring are a measure of parental perceptions, not adolescent behaviours, and therefore self-enhancing bias and social desirability are likely to affect parental reports of monitoring. Patterson et al. (1992) demonstrated this effect by comparing behavioural observations of parents to self-report data. They showed there is generally little correlation between what parents say they do and what they actually do. Howard, Cross, Li, & Huang (1999) examined concordance rates of exposure to violence and depressive symptoms, alongside parental monitoring in a sample of 333 parent-adolescent dyads ($M = 12$yrs). They found 58% of parents underestimated their adolescent’s exposure to violence, and 88% of parents underestimated their adolescent’s depressive symptomatology. Interestingly, youth with low parent-adolescent concordance rates were more likely to
be poorly monitored (Howard et al., 1999). Thus, parental reports of their own monitoring are generally higher than adolescent reports, and the data range is restricted, and therefore, we might assume many parents will report they know where their adolescents are and are likely to be reluctant to admit it if they do not.

To overcome this dilemma, many studies have questioned adolescents on monitoring, to the exclusion of parents. However, there are also systematic differences in adolescent views of their family (Noller, 1994). In several studies, Noller (1994) has found adolescents have a generally more negative view of their families than their parents do, and they see their families as less cohesive. This evidence that adolescents can harbour negative attribution biases is important. If an adolescent is experiencing family problems, they may also report negative attitudes to parental monitoring. For example, they may report their parents do not care enough to monitor, or report that their parents are too strict. Thus, while adolescent self-reports are usually considered more accurate than parental reports, they remain a measure of perceptions of parental monitoring rather than actual parenting behaviour.

In summary, self-reports of monitoring from parents are likely to be over-estimates of monitoring, and reports from adolescents may underestimate monitoring if family difficulties are present. Therefore, an understanding of the developmental path from poor parental monitoring to problem behaviour is not likely to result from self-report data alone. A few studies (excluding the OYS research) have used alternative methods, and each of these will be reviewed in the next section.

*Alternatives to Self-report Methods*

Crouter and colleagues have conducted a series of studies using repeated telephone interviews with parents and children ($M = 10$), in order to measure parental monitoring knowledge (Bumpus et al., 2001; Crouter et al., 1999; Crouter et al., 1990;
Crouter & Manke, 1997; Crouter et al., 1995; Crouter & McHale, 1993; Crouter et al., 1993). These studies form part of the Pennsylvania State Family Project and use longitudinal data from predominantly middle class families, categorised as dual or single income, and divorced or non-divorced, with 10-year-old children at the first measurement point. The monitoring measure used in these studies had six questions, based on Patterson and Stouthamer-Loeber (1984), asking both parent and child about the child’s activity during the day. The questions were repeated over seven nights of telephone calls to both parents and children. An agreement score was then calculated for each question; with a score of zero indicating parental answers did not match child answers at all, through to a score of two, which indicated a perfect match. Moderate correlations were reported between parent and child reports (mother and child \( r = -0.30 \), father and child \( r = -0.29 \), and mother and father \( r = 0.43 \)). Although significant, these results suggest that even when collecting daily reports from children and parents, the level of parental knowledge surrounding their child’s activity is not high, one would expect that knowledge of older children and adolescents would be lower again.

Researchers have complemented the traditional monitoring questionnaire by adding a time sampling measure using retrospective 15-minute interval time activity schedules, in two studies from the longitudinal Child Development Project with predominantly middle class families (Beyers et al., 2003; Pettit et al., 1999). Pettit et al. (1999) asked 12-year-old adolescents and parents to report on time after school with direct parental supervision, and without direct parental supervision. The activity schedule revealed these 12-year-old adolescents spent an average of 22.5% of their time without adult supervision, or about 40 minutes per day. The correlation between mother and adolescent reports was moderate \( (r = 0.42) \). In a later study, Beyer et al. (2003) used this same activity measure and found higher correlations between parent and adolescent reports, with the amount of hours unsupervised at \( r = 0.66 \), and time
unsupervised in the community at $r = .52$. An implication of these results is that asking parents and adolescent to record events as they occur is likely to achieve considerably higher concordance rates than retrospective self-report questionnaires. Although this study did not delve into how parents monitor their child’s unsupervised free-time, further research using similar methods could shed light on parental use of rules and indirect parenting strategies.

When summarising the methods used to measure monitoring it is clear that there are few examples in the literature of alternatives to retrospective self-report methods. However, these few examples presented here, along with the OYS studies, reveal that monitoring measures based only on self-report questionnaires are lacking in depth. Measures that go beyond self-reports of monitoring knowledge are necessary. It seems that further research using behavioural observations or real-time recording hold the most promise of advancing knowledge of monitoring.

**Sampling Issues**

As previously stated, the parental monitoring construct evolved from research that aimed to reduce or prevent antisocial behaviours and substance abuse in adolescents, and as a consequence participants were often selected from high-risk groups. For this reason, there are some important limitations on the capacity to generalise to typically developing families from these findings. These limitations are discussed in detail below, and are an important precursor to the discussion of research results that follows.

Boys from high-risk families have been featured in the research. In the Oregon Youth Study sample participants were all boys (Dishion et al., 1995; Dishion et al., 1991; Forgatch & Stoolmiller, 1994; Patterson et al., 1990; Patterson et al., 1991; Patterson & Dishion, 1985; Patterson et al., 1992; Patterson & Stouthamer-Loeber,
1984; Patterson & Yoerger, 1997). Following this, 10 further studies have continued to focus on boys only (G. M. Barnes et al., 1999; G. M. Barnes et al., 2002; Brendgen et al., 2001; Criss et al., 2003; Loeber et al., 2000; Pagani et al., 1999; Pagani et al., 1998; Sampson & Laub, 1994; Vitaro et al., 2000; Wasserman et al., 1996).

Five studies have used exclusively female samples (Baker et al., 1999; DiClemente et al., 2001; Luster & Small, 1997b; Rosenthal et al., 1996; Small & Kerns, 1993); and all these studies have been addressing female sexual activity and risk.

Participants were selected from specific population groups. Including clinical populations from anti-smoking programs (Ary, Duncan, Biglan et al., 1999; Biglan et al., 1995; Metzler et al., 1994), adolescents from adolescent health and sex clinics (Baker et al., 1999; DiClemente et al., 2001; Rosenthal et al., 1996), adolescents seeking mental health services (Donenberg et al., 2002; King et al., 2001), and homeless adolescents (Whitbeck et al., 1997). While these studies provide valuable data on high-risk adolescents, caution is necessary when generalising to typically developing families.

Recently, many studies have focused on ethnically specific populations living in the US, including exclusive African-American populations (Brody, 2003; Colder et al., 2000; DiClemente et al., 2001; Dutra et al., 2000; Jones et al., 2003; Klein & Forehand, 2000; Li, Feigelman et al., 2000; Li, Stanton et al., 2000; Li et al., 2002; Rai et al., 2003; Romer et al., 1999; Sagrestano et al., 2003; Smetana & Daddis, 2002; Stanton et al., 2000), or African-American/Hispanic samples (Forehand et al., 1997; Wasserman et al., 1996). Often participants in these studies are also from high-risk or low socio-economic backgrounds.

Finally, with the exception of the Swedish studies (Kerr & Stattin, 2000; Kerr et al., 1999; Martens, 1997; Stattin & Kerr, 2000; Svensson, 2000, 2003), there are only a
few published studies from outside the US. Therefore, the research to date on parental 
monitoring is largely reflective of the American views in parenting and adolescence.

Summary of Methodological Issues

Before reviewing the large body of research findings on monitoring, a summary 
of the methodological issues will be beneficial. Monitoring was originally defined as a 
multi-dimensional construct of parent-adolescent interactions, but the definition has 
gradually changed to become a uni-dimensional measure of parental monitoring 
knowledge. The measurement of the construct has been predominantly through self-
report questionnaire data, the exception being Patterson and colleagues, Crouter and 
colleagues, and Pettit and colleagues. The correlations between parent and adolescent 
self-reports are, at best, only moderate, and therefore some parent and adolescent data 
may be independent. Finally, a considerable number of studies have been drawn from 
high-risk participants, or specific subgroups, and generalisations from these studies 
should be made with caution. It seems clear the literature could be enhanced with 
knowledge of typically developing families as well as continued clinical studies. More 
specifically wider applications of the multi-method approach that include real-time 
measures should be tested.

Discussion of Research Results on Parental Monitoring

Having discussed the methodological quality and issues, this review will now 
proceed to a discussion of the research findings that have been published to date. The 
results are presented in two sections, correlational studies, and then experimental 
studies.
Correlational Research Studies

The majority of research on parental monitoring has been correlational. In this review there are 113 correlational studies discussed (as shown in Table 2). The results of these studies show that parental monitoring has been correlated with externalising problem behaviours in adolescents, including antisocial behaviour, deviant peer associations, substance use, and sexual risk. Internalising problem behaviours have also been linked to poor monitoring, including psychological maladjustment, lowered self-esteem, and poor academic achievement. In studies of family functioning, poor monitoring is associated with parent-adolescent relationship difficulties, family dysfunction, and contextual disadvantage. The following discussion of results has been arranged according to subheadings, labelled after the adolescent or parenting factor that has been associated with monitoring.

Correlational Research on Externalising Behaviours

Antisocial behaviour

Perhaps the most noteworthy demonstration of the relationship between parental monitoring and antisocial behaviour has come from the OYS studies. Using their broad definition of monitoring and multi-method measures, the OYS studies found that poor monitoring was associated with increased antisocial behaviour (Patterson et al., 1992). These authors concluded that parental monitoring played a central role, with lowered monitoring allowing increased opportunities for unpunished trials of delinquent behaviour (Patterson & Stouthamer-Loeber, 1984). The OYS studies also found lower parental monitoring was associated with higher police arrests. Patterson and Stouthamer-Loeber (1984) reported low monitoring was the strongest predictor of police contacts and delinquent lifestyle ($p < .0001$), counting for two and a
half times the variance of discipline and reinforcement. Loeber et al. (2000) demonstrated an inverse interaction between parental monitoring and problem behaviours. Using 5-year growth curve analysis with a sample of 1517 adolescents and their parents, they found levels of parental monitoring decreased over time when problem behaviour increased (Loeber et al., 2000). These results were consistent in demonstrating a negative linear relationship between poor monitoring and problem behaviour.

Patterson and his colleagues hypothesised that there were two trajectories for the development of antisocial behaviour, early-starters and later-starters, and monitoring patterns would be different for each (Patterson et al., 1991; Patterson & Yoerger, 1997). To demonstrate the early-starter model of delinquency (Patterson et al., 1991) the OYS sample was divided into 3 risk groups. The top quartile was considered at extreme-risk, the next quartile at moderate-risk, and lower half were considered to be at low-risk. Official delinquency records showed that at grade 8-9, 51% of the extreme-risk group had an arrest, compared with 29% of the moderate-risk group, and 7% of the low-risk group. There were significant differences in mean monitoring scores for the extreme-risk group ($M = -.32$), moderate-risk group ($M = -.21$), and low-risk group ($M = .26$), indicating that parents of early-starter extreme-risk boys monitored significantly less. Patterson et al. (1991) hypothesised that the level of child aversiveness determines when the parental monitoring is likely to break down. With early-starter delinquents breakdown can be as early as 6-7 year of age; in contrast, with the late-starter delinquents monitoring breakdown is more likely to occur in early to middle adolescence. The models show very different parenting behaviours and developmental trajectories for early-starters and late-starters. Patterson and Yoerger (1997) conclude that although the early and late-starter paths differ temporally, an
increase in delinquency and deviant peer associations is still set in motion by disrupted parenting.

Subsequent mixed gender studies have found significant relationships between lower parental monitoring and antisocial behaviours (Ary, Duncan, Biglan et al., 1999; Ary, Duncan, Duncan et al., 1999; Laird, Pettit, Bates et al., 2003; Laird, Pettit, Dodge et al., 2003; Pettit et al., 1999). Significant associations for females, between antisocial behaviour and low monitoring is also reported, but across only a few studies. Using covariate-adjusted logistic regression analysis in a sample of 14 to 18-year-old sexually active African-American females, DiClemente et al. (2001) reported female adolescents with poor parental monitoring were 2.1 times more likely to have history of arrest.

**Deviant peer associations**

Across a number of studies, poor monitoring has been associated with increases in deviant peer relationships (Ary, Duncan, Biglan et al., 1999; Ary, Duncan, Duncan et al., 1999; Barrera et al., 2001; Dishion et al., 1995; Kim et al., 1999; Patterson & Dishion, 1985; Patterson & Yoerger, 1997; Vitaro et al., 2000). In an analysis over time of late-starter delinquency, an increase in time spent with deviant peers was associated with reduced monitoring (Patterson & Yoerger, 1997). Longitudinally, poor monitoring at age 10 significantly predicted antisocial peer associations at 12 years of age (Dishion et al., 1991). Dishion et al. (1995) demonstrated that ineffective parental monitoring corresponded with increases in boys’ involvement with deviant peers, and when measured with substance use, there was a greater likelihood that poorly monitored boys would seek out peers with greater substance abuse patterns. Hence, the path to increasing problem behaviour commences with poor monitoring, this in turn leads to increased opportunities to associate with deviant peers, and then increased deviant peer associations are linked to further reductions in monitoring.
Substance use

The studies that have linked poor parental monitoring with substance use are simply too numerous to list in this text. A tally taken from Table 2 shows that 27 of the 113 (24%) studies in this review report a specific finding that lower parental monitoring was associated with higher alcohol, cigarettes, marijuana, or other drug use. This is a conservative tally as many studies merely refer to increased problem behaviours or externalising behaviours. The following studies have the most relevant findings in relation to substance use.

General drug use

The association between parental monitoring and lowered substance use appears strongest at the transition to substance use (Steinberg et al., 1994). Higher parental monitoring was associated with a two-year delay in the onset of drug use, when measured in a four-year study that began with middle childhood, aged 8-10 years (Chilcoat & Anthony, 1996). In this study, adolescents who were in the highest quartile for parental monitoring showed a two-year delay in the onset of drug use when compared with adolescents in the lowest parental monitoring quartile. It is argued that once adolescents have begun using substances, the seeking out of like-minded peers increases and expands their usage (Steinberg et al., 1994).

Alcohol use

The relationship between increased alcohol use and lower parental monitoring has been demonstrated in several studies (G. M. Barnes & Farrell, 1992; G. M. Barnes et al., 2000; 1999; 2001; Guo et al., 2001; Reifman et al., 1998; Thomas et al., 2000). Barnes and colleagues (2000) found high parental monitoring was associated with lower alcohol use, across a 6-wave longitudinal study of randomly sampled adolescents commencing measurements at 13 years of age. They also found higher monitoring diminished the upward trajectory of alcohol misuse across adolescence. Another
longitudinal study (Guo et al., 2001) of 755 adolescents followed from age 10 to 21 years, found high monitoring and clearly defined rules at 10 years of age predicted lower alcohol abuse and dependence at 21 years. Higher monitoring lowered the odds of alcohol abuse by 0.78, using odd ratios adjusted for internalising and externalising behaviours at age 10 years (Guo et al., 2001). Also, DiClemente et al. (2001) reported female adolescents with poor parental monitoring were 1.4 times more likely to have a history of alcohol use. Taken together these results show that adolescents who are poorly monitored begin alcohol consumption earlier, they drink more, and are more likely to develop heavier drinking patterns.

**Tobacco and marijuana use**

Adolescents with low monitoring are more likely to smoke cigarettes or use marijuana (Baker et al., 1999; DiClemente et al., 2001; Mott et al., 1999; Svensson, 2000). Baker et al. (1999) measured monitoring and cigarette smoking in a sample of sexually active 14-year-old girls using a three-factor analysis comprising direct monitoring, direct monitoring while with friends, and indirect monitoring. They reported direct parental monitoring of adolescents while they are with peers was associated with lower rates of alcohol and cigarette use. DiClemente et al.’s (2001) odds ratio data with a female sample show that low monitoring was associated with 2.3 times greater likelihood of marijuana use.

**Sexual activity and sexual risk**

Lower parental monitoring has been consistently linked with increased sexual activity in adolescence, risky sexual behaviours, lower contraceptive use, lowered safe sex practices, and unwanted sexual contact (DiClemente et al., 2001; Donenberg et al., 2002; Huebner & Howell, 2003; Jacobson & Crockett, 2000; Li, Feigelman et al., 2000; Luster & Small, 1994, 1997b; Meschke & Silbereisen, 1997; Metzler et al., 1994; Rodgers, 1999; Romer et al., 1999; Small & Luster, 1994). A study of West-
German and Former-East German students found that higher monitoring was predictive of later initiation of sexual activity (Meschke & Silbereisen, 1997), with the odds ratio of early first sexual experience decreasing (0.54 to 0.88). Sexually active females who were poorly monitored were 1.7 times more likely to have a confirmed sexually transmitted disease, 2.0 times more likely to have multiple sexual partners, and 3.0 times more likely to have had a new sexual partner in the past 30 days (DiClemente et al., 2001). Lowered parental monitoring has also been associated with unwanted sexual contact (Small & Kerns, 1993), and with sexual abuse in females (Luster & Small, 1997b).

Other problem behaviours

Various other problem behaviours have also been correlated with lowered monitoring. Barnes et al. (2002) reported male youths ($M = 19$ years, $N = 565$) with lower parental monitoring have increased gambling patterns. Lower parental monitoring has been associated with risky driving behaviours (Hartos et al., 2000). Violence exposure and lowered parental monitoring has been associated with increased violent behaviours (Singer et al., 1999), and lowered parental monitoring has also been associated with increased gun exposure (Slovak, 2002; Slovak & Singer, 2001).

Correlational Research on Internalising Behaviours

Psychological adjustment

Adolescents who are poorly monitored also report poorer psychological adjustment. For example, low monitoring has been associated with increased depressive symptoms in adolescents (Gil-Rivas et al., 2003; Patterson et al., 1992), greater stress (Hartos & Power, 2000a; Sagrestano et al., 2003), and lowered self-esteem (Patterson et al., 1992). A United States National Institute of Mental Health adolescent mental health epidemiological study with 1285 adolescents (King et al.,
2001) found lowered parental monitoring was associated with increased suicidal ideation, even after controlling for psychiatric disorders and socio-economic variables. In an interesting study, runaway adolescents interviewed on the street and in homeless shelters reported low monitoring, and follow-up interviews with their parents concur with their low monitoring reports (Whitbeck et al., 1997). One difficulty in interpreting these results on psychological adjustment is establishing the extent of negative attribution bias amongst these unhappy adolescents. As indicated earlier in Chapter 1, even typically developing adolescent have a tendency to see their families in a negative light, so it is feasible that the poorly adjusted adolescents in the above studies may be reporting global negative views of their parents.

**Academic achievement**

Higher parental monitoring has been associated with improved academic achievement (Brown et al., 1993; Jacobson & Crockett, 2000; Li et al., 2003; Steinberg et al., 1992; Vazsonyi & Flannery, 1997); and in boys, lower parental monitoring has been associated with lower academic achievement in longitudinal research (Crouter et al., 1990; Patterson et al., 1992). These findings are not surprising, as one would expect that parents who do not monitor their adolescents free-time are also more likely to be unaware of homework completion, or not provide suitable boundaries to enable adequate study-time.

**Correlational Research on Adolescent Development and Monitoring**

**Transition into adolescence**

The changing boundaries and increasing independence that accompanies adolescence corresponds with reductions in parental monitoring over time. Increases in the mean number of unsupervised hours, and reduced mean monitoring scores have been demonstrated from middle childhood to late adolescence. Using standardised
scores by grade level, Patterson and Stouthamer-Loeber (1984) found significant changes in mean scores of unsupervised hours each day. In this study, the average aged 10.1-year-old child had 0.78 mean unsupervised hours per day, compared with 1.02 hours at age 13.3 years, and then unsupervised time doubled at age 16.3 years to a mean of 2.06 hours. The mean monitoring scores were also reduced with age, being 0.89 for aged 10.1 years, 0.50 at age 13.3, and -1.24 at age 16.3 years. Surprisingly this reduction in monitoring across adolescent development is seemingly ignored in many correlational studies. These differences across age groups may be hidden when the sample is analysed as a whole. Sometimes, differences in age cannot be accounted for because participants are from one age group only; for example, using exclusively 14-year-old adolescents (Kerr & Stattin, 2000; Kerr et al., 1999), or exclusively 9th grade students (Mott et al., 1999; Mounts, 2001). While it is evident from the literature that adolescent autonomy and independence increases with age, it is not often reflected in the monitoring literature.

Changes in monitoring are not attributable just to increasing age; there are also changes that occur with developmental and transitional stress. Patterson et al. (1990) hypothesised a mediational model where increased child stress would be related to disrupted discipline and monitoring, and this would then contribute to increased antisocial behaviour. Using structured equation modelling (SEM) analysis on the OYS sample of boys, the model showed that transition stressors (changes to residence, family structure, normative and non-normative school changes, and level of pubertal maturation) predicted child coercion, which then predicted ineffective discipline and poorer monitoring.

**Gender differences in monitoring**

Gender differences in parental monitoring are present, although often not revealed in statistical analysis of mean scores. In four-year longitudinal data, parental
monitoring was shown to decrease for boys, but not girls (Laird, Pettit, Bates et al., 2003; Laird, Pettit, Dodge et al., 2003). Laird et al. (2003) reported that this gender difference was hidden in simple mean scores analyses, and was revealed only by using growth trajectory patterns. There is also evidence that adolescent perceptions of monitoring differ for males and females, with females reporting higher levels of parental monitoring than males (Borawski et al., 2003; Crouter et al., 1999; Li, Feigelman et al., 2000; Smetana & Daddis, 2002; Svensson, 2003). Future research using real-time measures are likely to reveal if the gender differences are merely perceptual, or actual differences in parents’ monitoring of their sons and daughters.

**Correlational Research on Parent-Adolescent Relationships**

It has been argued that parent-adolescent relationship quality is an important factor in predicting successful monitoring, and poor relationships contribute to the development of problem behaviours. Greater relationship enjoyment, higher parental involvement, and less antisocial behaviour have been associated with improved monitoring knowledge (Laird, Pettit, Dodge et al., 2003). Further, mediational analysis (Laird, Pettit, Dodge et al., 2003) has found that antisocial behaviours are negatively correlated with adolescent beliefs that parents should possess monitoring knowledge. When antisocial behaviour rises, adolescents perceive that their parents should know less about their activities.

Adolescent perceptions of relationships are also important to monitoring interactions. In a large three-year longitudinal study of adolescents, measured from grade six through to grade eight, Bray, Adams, Getz and Stovall (2001) measured the relationship between monitoring, alcohol use, and separation from parents (a measure of dependence/non-dependence on parents). They found that at higher levels of separation (greater independence), increased monitoring predicted lower alcohol use;
however, when monitoring was low, higher separation predicted increases in alcohol use. The authors argue these results demonstrate that adolescent beliefs on parental monitoring awareness can moderate the negative impact of detachment and separation from parents. Thus, there appears to be complex patterns of association between parent-adolescent relationships, monitoring, independence, and adolescent beliefs that are not fully explained in the literature.

*Disclosure and trust*

In their series of studies, Kerr and colleagues (Kerr & Stattin, 2000; Kerr et al., 1999; Stattin & Kerr, 2000) found that spontaneous adolescent disclosure of free-time activity was the most significant predictor of monitoring knowledge, and more significant than parental solicitation and control. They purport that when parents question their adolescents about their activities (solicitation) there is a corresponding decline in monitoring knowledge. In their studies, higher parental solicitation was linked to greater norm-breaking, whereas disclosure was negatively correlated with norm-breaking (Stattin & Kerr, 2000). This relationship between solicitation and disclosure requires further testing. Nevertheless, it seems necessary for parents to have established a relationship where children and parents interact daily, and their communication lines remain open.

Trust and monitoring was investigated in a recent study by measuring parental monitoring, negotiated unsupervised time, and parental trust, using a self-report measure on 692 adolescents, with a mean age of 15.7 years (Borawski et al., 2003). This study found a positive moderate correlation ($r = .23$) between adolescent reported parental monitoring and trust, and a negative relationship between monitoring and negotiated unsupervised time ($r = -.25$). Therefore, parents with poor monitoring also trusted their adolescents less, and allowed them more negotiated unsupervised time. Of note were some gender differences in this study; the correlation between parental trust
and negotiated unsupervised time was more important to adolescent females, than parental monitoring was.

**Conflict**

If relationship quality was important to monitoring, one would expect that conflict would be detrimental to parental monitoring. To test if increased conflict in adolescence would lead to poorer monitoring, Patterson and Yoerger (1997) measured a disrupter variable based on parental unemployment, financial loss, illness, or death in family, family transition, change of residence, and pubescent conflicts. They found increased disruption was correlated with increased conflict in the family, and the conflict had a direct association with deviant peers.

Other researchers have produced similar evidence that families in high conflict are more likely to also have poor involvement and poor parental monitoring (Ary, Duncan, Biglan et al., 1999; Ary, Duncan, Duncan et al., 1999). Some gender differences between monitoring and conflict have also been noted. Formoso, Gonzales and Aiken (2000) found that high parental monitoring attenuated the relationship between conflict and conduct disorder for girls, but exacerbated it for boys. In this study of high conflict homes, boys with high parental monitoring exhibited a stronger relationship between conflict and conduct disorder. Formoso et al., while acknowledging that these findings need replication, suggested parental monitoring might be protective for girls living in high conflict homes, but a risk factor for boys.

**Correlational Research on Family Structure and Context**

**Parenting style**

In addition to the quality of the relationship, parents who are actively involved in their children’s lives are also more interested in sharing their adolescent’s activities, and therefore, are likely to be higher monitors. Antecedents of higher parental
monitoring are having a proactive parenting style and an advantageous family ecology (Pettit et al., 2001). Positive parental emotions have been shown to mediate the relationship between monitoring and problem behaviours. Parents with increased humour are associated with better monitoring, whereas high levels of contempt expressed by mothers and boys (the interaction term) is associated with poorer monitoring (Forgatch & Stoolmiller, 1994).

Crouter and colleagues measured associations between parenting variables and monitoring using repeated telephone calls to parents and adolescents with daily activity reports. They found parental monitoring knowledge differs as a function of mother’s work involvement, parental qualities, and family processes (Crouter et al., 1999; Crouter et al., 1993). Parents from low stress dual-earner families are associated with greater monitoring, than those who are from high status dual-earner families (Crouter & Manke, 1997). Relationship changes amongst separated parents are also shown to impact on the parent-adolescent monitoring interactions, with the 9-year Montreal Longitudinal-Experimental study showing boys between the ages of 12 and 15 years whose families were experiencing remarriage of their parents, perceived less monitoring by both parents than boys from intact and to-be-divorced families (Pagani et al., 1998). And, finally, mothers are reportedly higher monitors than fathers (Crouter et al., 1990; Crouter & Manke, 1997; Crouter et al., 1995). Across these studies, we can see that parental capacity to monitor is likely to change, depending on other competing demands.

Parental stress and psychosocial adjustment

The relationship between parental psychological adjustment and environmental stress is significant. Lower parental monitoring has been associated with parents with higher depressive symptoms (Chilcoat & Anthony, 1996; Klein & Forehand, 2000). In addition, lower rates of parental monitoring have been associated with maternal
psychiatric disorder and increased social disadvantage in a longitudinal study of 700 mothers recruited at the birth of their child (Chilcoat et al., 1996). Patterson et al. (1991) also found a relationship between level of risk in boys and their parent’s functioning. In this study, parents of moderately at-risk boys were more likely to be characterised as antisocial, depressed, and stressed, while parents of extreme risk boys were characterised as depressed and lower in social status. The authors argue that this supports the hypothesis that boys from extreme risk families have less skilled parents and more social disadvantage, but boys from the moderate-risk group have antisocial parents.

**Poverty and neighbourhood safety**

There is unclear evidence of a mediational effect of monitoring between poverty and antisocial behaviour. Sampson and Laub (1994) reanalysed archival data from Glueck and Glueck’s studies on delinquent low socio-economic status boys (as cited in Sampson & Laub, 1994). They found that parental monitoring mediated the relationship between poverty and delinquency. However, contrasting results were found in the Montreal Longitudinal-Experimental Study on boys (Pagani et al., 1999), with poor monitoring having a significant direct effect on delinquency, but it did not mediate the effects of poverty on delinquency.

Tests of the moderating effect of neighbourhoods have also shown mixed results. Coley and Hoffman (1996) measured monitoring with parents and children in grades 3 and 4, and found interaction effects between neighbourhood safety and parental monitoring. Beyers et al. (2003) also found unstable neighbourhoods moderated the relationship between parental monitoring and externalising behaviours, and low parental monitoring was associated with more unsupervised time in the community. In contrast, Colder et al. (2000) reported no mediating role between parental monitoring on neighbourhood danger and child aggression in a sample of 732
predominantly African-American mothers’ reports of parental monitoring. Only one study was found that considered the difference between urban and rural monitoring levels, and this found families residing in urban areas had higher monitoring levels, possibly as a consequence of higher anticipated risk from parents (Jones et al., 2003). The important relationship between poverty and neighbourhood safety in reducing parents’ capacity to monitor seems apparent, although researchers show both direct and indirect associations between these variables.

**Direction of Effects in Correlational Studies**

The volume of studies that were reviewed above demonstrate a clear association between parental monitoring and adolescent free-time activities. This review shows that poor monitoring is consistently associated with externalising and internalising problem behaviours in adolescents. Changes in monitoring are evident with increasing adolescent independence, and there are some gender differences. Parent-adolescent relationship factors are associated with monitoring, as are trust, communication, adolescent disclosure, and family conflict. Parental capacity to monitor well is also impacted on by their own psychological adjustment, family stress, poverty, and neighbourhood safety. Even though these correlational studies are not able to establish causal status, their weight and sheer volume make it clear that there is indeed something important about parental monitoring and adolescent free-time behaviour.

Recently several researchers have published articles fiercely debating the direction of causality in parental monitoring (Brody, 2003; Capaldi, 2003; Kerr & Stattin, 2003a, 2003b; Menaghan, 2003). The issue in contention is whether monitoring has a parent-to-child causal effect, that is, if a parent’s monitoring behaviours have an impact on the child’s behaviour; or alternatively if it is a child-to-parent causal effect, where the child’s delinquent behaviours result in the parent finding monitoring
attempts aversive and the parent giving up. As previously discussed Kerr and Stattin (2003a; 2003b) have recently claimed that monitoring can be best explained as a child-to-parent effect, and they use their studies on self-report data from 14-year-old adolescents and their parents to support their claims. They contend that existing research examining parent-to-child effects is flawed because reverse causality has not been addressed. Certainly, the correlational research literature cannot conclude causality; unfortunately, this also includes the work of Kerr and Stattin. Capaldi (2003) argues Kerr and Stattin’s claims are unsubstantiated, given that one cannot expect an adolescent is likely to continue disclosing regardless of their parent’s reaction.

Using the coercion model (Patterson et al., 1992) the OYS researchers have demonstrated that parents initiate the monitoring interactions, although the power differential may change with ongoing delinquency. The longitudinal body of work by Patterson, Capaldi, Dishion and colleagues (for example Capaldi, 2003; Capaldi & Patterson, 1989; Dishion et al., 1995; Dishion & McMahon, 1998; Forgatch, 1991; Patterson et al., 1992; Patterson & Stouthamer-Loeber, 1984) over an 11-year period provides substantial evidence that monitoring is indeed a multi-dimensional and bi-directional construct. Forgatch (1991) reported that disruptions in monitoring over a two-year period corresponded with increased antisocial behaviour, and improved monitoring showed a trend (approaching significance) toward reduced antisocial behaviour. Thus, many researchers contend that monitoring is best conceptualised as something parents ought to manage.

Recently, other researchers have also entered the causal debate. Brody (2003) tested the direction of effect by examining maternal monitoring reports over a three-year period. He found that high maternal monitoring was associated with decreases in problem behaviours over time and has argued that this supports the parent-to-child direction. However, more research on the monitoring construct is needed. Capaldi
(2003) proposes that the construct must be conceptualised from a multi-dimensional, person-environment interaction approach. Undoubtedly, experimental manipulation of monitoring will be the most rigorous method of establishing causality.

Experimental Research Results

There is a large body of experimental research demonstrating that parenting interventions, particularly with younger children, can reduce problem behaviour (Sanders, Gooley, & Nicholson, 2000; Serketich & Dumas, 1996; Woolfenden, Williams, & Peat, 2002). To the author’s knowledge, there are only a handful of studies that have directly examined the impact parenting interventions have on monitoring variables. The few studies found that report experimental work on monitoring are listed in Table 3, and discussed below.

In an intervention trial, using a randomised controlled trial design aimed at improving parental monitoring and reducing risk behaviours, Dishion, Nelson, and Kavanagh (2003) have demonstrated that parents can be instructed to increase monitoring. In this four-year study, the parent-adolescent dyads received three-session yearly consultations that comprised motivational interviewing, video assessment of interactions, and therapist feedback. Results over four years show that parents of high-risk adolescents in the control group decreased monitoring as their children moved from grade 7 to 9, but parents in the intervention group maintained their monitoring practices, and a decrease in adolescent substance use was evident. This study presents clear evidence that parents can effect adolescent behavioural change through improved monitoring, and that a parent-to-child effect is evident.

A few studies have shown that parents will report improvements in their monitoring knowledge following psycho-educational programs (Bogenschneider & Stone, 1997; Li et al., 2002; Stanton et al., 2000). Li et al. (2002) tested this effect with
a single session intervention (including a take-home video) of parental monitoring knowledge, with a randomised sample of African-American adolescents ($M = 13.6$ years). At 12-months post-intervention, parents self-reported monitoring knowledge increased for the treatment group, showing higher concordance rates between adolescent and parent reporting of risk behaviours. Unfortunately, the 12-month follow-up found no intervention effect on risk behaviours between treatment and control groups. Thus, following a brief intervention parents reported that they knew more about their adolescents’ risk behaviours, but the risk behaviours did not reduce. In this study, the parental reports may have reflected some expectancy effects. This finding shows that changing parental monitoring knowledge cannot be the sole focus of monitoring interventions. One could argue that for monitoring interventions to result in risk reduction, parents would need to increase reinforcement for appropriate behaviours, while also providing logical consequences for inappropriate behaviours. That is, follow the sound learning principles that are already established in the literature as necessary for behavioural change.

Conclusion and Implications from Literature Review

This review has shown that many studies investigating adolescent behaviour have included parental monitoring as a variable. There were three key methodological issues discussed that have limited the research findings. Firstly, over time the definition of monitoring has changed from its inception as a multi-dimensional construct of parent-adolescent interactions to a uni-dimensional self-report measure of parental
monitoring knowledge or simply awareness of adolescent free-time activity. One outcome of this narrow definition has been a debate over what monitoring really is. The measures used to assess monitoring, with few exceptions (see Patterson et al.; Crouter et al.; and Pettit et al), have been parental or adolescent self-reports using short Likert scale questionnaires, although concordance rates between parent and adolescent self-reports are, at best, only moderate. According to the literature, parents have a tendency to overestimate their monitoring behaviour, while adolescents have a tendency to see their families more negatively. The final methodological issue of importance is the appropriateness of making generalisations from research that is predominantly based on high-risk groups. Hence, the research results are reflective of clinical populations, rather than typically developing families.

Despite the methodological limits, results of the 113 correlational studies reviewed clearly support an association between parental monitoring and adolescent free-time activities. Poor monitoring was consistently associated with antisocial behaviour in both cross-sectional and longitudinal studies. Problem behaviour has strong associations with deviant peers, and there is a flow on effect of further reducing monitoring. Poor monitoring was also consistently associated with alcohol use, tobacco and substance use, higher sexual risk taking, poorer contraceptive use, lowered safe sex practices, and unwanted sex. Poorly monitored adolescents were also more likely to report depressive symptoms, lowered self-esteem, and poor academic achievement.

There is evidence that monitoring changes with adolescent development. Younger adolescents reported more parental monitoring, and monitoring appeared to decline with increased independence. Female adolescents tended to report higher levels of monitoring. Parent-adolescent relationship factors were associated with monitoring, as were trust, communication, adolescent disclosure, and family conflict. Where parent-adolescent relationships were good there was a greater likelihood that higher
monitoring would be reported. Parents’ capacity to monitor was also associated with their own psychological adjustment, family stress, poverty, and neighbourhood safety.

Controversy surrounds the parental monitoring construct with debates over the direction of effects. On the one hand, most researchers suggest that parents can change their adolescent’s behaviour by increasing monitoring, but a few recent studies have claimed that parental monitoring is dependent on an adolescent’s willingness to be monitored. However, it seems clear that a resolution to the challenge of establishing parent-child effects versus child-parent effects (see Brody, 2003; Capaldi, 2003; Kerr & Stattin, 2003a, 2003b) will only be achieved through experimental manipulation of the monitoring construct. As shown in this review, there is a considerable gap between correlational work and intervention or experimental studies. The recent study of Dishion et al. (2003) demonstrated that it is possible to change parental monitoring and reduce problem behaviour, but more research that is experimental is needed. Future studies of intervention and psycho-educational programs are necessary, and will require multi-dimensional measures of monitoring that can illuminate monitoring interactions and the evolution of monitoring across the adolescent developmental cycle.
CHAPTER 3 - RATIONALE FOR CURRENT RESEARCH

The theoretical review of parental monitoring revealed that monitoring interactions between parents and adolescents have multiple levels of influence; and therefore, in order to understand how monitoring episodes evolve it is necessary to understand the daily micro-social interactions, to consider the characteristics of the adolescent and parent, and also to understand the family and its context. The empirical research clearly demonstrates that when parents know where adolescents are and what they are doing, the adolescents are less likely to behave delinquently. However, there is no evidence to show that translating these research results into parental counsel to ‘know where your kids are’ will have the expected positive effect. The review of the literature has shown that the multiple influences surrounding monitoring are frequently not examined, and research has been primarily variable-centred correlational studies. In addition, there have been debates over the definition of monitoring, and it is argued that a consequence of the narrow research measurement is a lack of clarity in the results. This present research proposes an alternative process model of parental monitoring to address some of the limitations found in the research.

A Process Model of Parental Monitoring

Where traditional models of parental monitoring tap only knowledge or supervision behaviours, the proposed process model incorporates all of the elements of parent-adolescent interactions that relate to monitoring. The central tenet is that parental monitoring is a complex interactive process between parents, adolescents, and their environment, and must be assessed at micro and macro-social levels. The process model is shown in Figure 3, and comprises (1) an assessment of parent and adolescent
behaviour, (2) hypotheses of the function of this behaviour and its cyclical process, (3) an evaluation of the parental characteristics that contribute to monitoring interactions, (4) an evaluation of the adolescent characteristics that contribute, and (5) considers the interplay of family context, peers, school, and community. It is argued that parental monitoring is a dynamic process and the proposed process model represents this.

Assessment of Monitoring Behaviours

The proposed parental monitoring process model is based on social learning principles and uses a behaviour analytic framework to interpret the functional
importance of monitoring interactions. The behaviour analysis approach argues that an examination of the antecedents and consequences of behaviour provides an explanation of the reinforcement contingencies, thereby providing understanding of why behaviours are repeated.

The proposed process model shows a series of parental monitoring episodes, each in temporal sequence. In the proposed model, parenting behaviour is represented by ellipses and adolescent behaviour is represented by rectangles. This is because the behaviour of parents may have different functions to the behaviour of adolescents, and they must be analysed separately. A monitoring sequence is explained by following episode one from left to right. Pre free-time monitoring represents the parenting behaviour that occurs before adolescents go out. Pre free-time monitoring behaviours include parents making inquires about where adolescents are going and what they plan to do, giving permission, finding out about peers, and setting limits and curfews. The next step shows the adolescent free-time behaviour. This is time away from parents and may include being supervised by another adult (for example, a friend’s parents), or may be with no adult supervision. The next phase shows what occurs when the adolescent returns home, and this has two elements. The adolescent can tell his parents what he has been doing (represented as disclosure), or his parents can solicit the information by questioning (represented as post free-time monitoring). Thus, post free-time monitoring behaviour is the soliciting of information from adolescents about their activities, whereas adolescent disclosure is when adolescents freely discuss what they have been doing. The willingness of an adolescent to disclose their activity has been shown as a key factor to parental monitoring (Kerr et al., 1999). Post free-time monitoring would also include parental observations of adolescent behaviour.
proposed process model demonstrates that both disclosure and post free-time monitoring contribute to the *parental response*, which would cover the full gamut of possible parental responses, from expressing an opinion, delivering logical consequences, or yelling and lecturing. The *adolescent response* could be acquiescence or defiance, but their response is influenced by parental responses toward their independence.

*Developing an Understanding of Monitoring Behaviours and their Evolution*

The next step in understanding monitoring is critical; this is to consider the functional relationship of the behaviours and the changes throughout adolescent development. The proposed process model shows that each monitoring episode influences future parental monitoring behaviours and adolescent behaviours. Utilizing Patterson’s (1982) coercive family process model it is evident that monitoring behaviours would be developed and maintained within a well-rehearsed action-reaction sequence of parent and adolescent interactions. It is expected that positive behaviours like disclosure and communication will reinforce parental monitoring, and patterns of avoidance and escalation will contribute to poorer monitoring. It is hypothesised that where problem behaviours have become endemic the coercive process is likely to be performed many times in parental monitoring interactions.

As discussed previously, avoidance and escalation are key research areas for understanding poor parental monitoring. An understanding of normal parent-adolescent conflict in monitoring, compared with clinical levels of conflict is needed. Using the proposed process model of monitoring we can see that advising parents to change one element of behaviour only, for example increasing post free-time
monitoring by asking their adolescent more questions, is unlikely to have the desired impact and improve monitoring. Instead, the reverse may occur where increased questioning leads to greater conflict or avoidance, and subsequently poorer monitoring. With normative data showing that even in typically developing families, adolescents have several disagreements each day (Laursen & Collins, 1994), then it seems reasonable to expect that monitoring may be a subject of disagreement. Furthermore, it appears that parent-adolescent monitoring dialogue is likely to be frequent, with opposing views, and often go unresolved, however, high or very low levels of conflict in parental monitoring interactions are likely to be indicators of clinical importance.

Pre free-time monitoring and post free-time monitoring include verbal behaviours that parents use to influence the behaviour of adolescents, and also non-verbal cues used by parents, such as observation of adolescent behaviour during interactions. Parents need to ask questions and give adolescents rules to follow. The principles of rule-governed behaviour suggest the construction of rules and delivery of consequences are likely to impact on monitoring. Surprisingly there was little evidence in the literature review showing the associations between rule-setting and monitoring. Theoretically it would seem that parental monitoring based on direct-acting rules should have a powerful effect on adolescent and parenting behaviours, providing the consequences are consistently applied. Alternatively, rules that have indirect-acting consequences are likely to have little influence in modifying adolescent behaviour because a strong immediate positive reinforcer like ‘hanging out with friends’, outweighs competing weaker negative reinforcement like ‘avoiding a lecture from parents’. One would anticipate that most adolescents are keenly aware of
parental styles and become skilled at weighing up the consequences of following or breaking parental rules. Research on effective monitoring rules in the pre free-time and post free-time stage is required.

*The developing adolescent’s contribution*

Chapter 1 and 2 revealed that an evaluation of monitoring also demands consideration of the adolescent contribution to the interaction. While it is generally expected that ‘difficult adolescents are normal’ in our society, it is not supported in research. Just how monitoring evolves in the transformation from parental control to adolescent independence is untested. The proposed process model accounts for these developmental changes in adolescents by considering the temporal pattern of monitoring episodes. The research shows that adolescent emotional experience of the family follows a curvilinear path, that early adolescents are less positive, and that there is a dramatic drop in family time (Larson et al., 1996). Therefore, a different pattern of monitoring would be expected across adolescence, particularly in middle adolescence when this crucial time for vigilant monitoring coincides with strained family interactions and adolescents are yearning for time away from the family.

*The contribution of parental characteristics*

A foundation for parental monitoring is the parent-adolescent relationship, and this was shown at all levels of the research review. The process model also shows that monitoring is embedded within the parent-adolescent relationship. The social interactional model of parenting by Dishion and McMahon (1998) provides a useful framework for explaining how parental characteristics contribute to monitoring. When the parent-adolescent relationship quality is poor, the process of monitoring is likely to be marked by coercion and avoidance (Patterson et al., 1992). Parental monitoring
also depends on parenting motivations, goals and values, and the behaviour management skills, within the social context of the family (Dishion & McMahon, 1998). Therefore, an assessment of monitoring demands an assessment of parent-adolescent relationships, however this was not often seen in the research. Where the relationship is poor, the first step in improving monitoring would be rebuilding parent-adolescent relationships, rather than suggesting parents elicit information about their adolescent’s activities. The emphasis in parenting literature to have parents ‘know where your child is’ by merely asking more questions has not been tested, and could increase aversive exchanges and resistance from adolescents and parents, leading to more unsupervised time.

Considering the social context

Finally, this proposed process model shows that parent-adolescent monitoring interactions are further influenced by contextual factors. Important factors include extended family, siblings, family support, peers, school, community, cultural, socio-economic, and geographical area. Research has shown an important relationship between contextual factors and monitoring. It is likely, when parents or adolescents are questioned about monitoring, that their perceptions are framed within their context. Therefore, while research shows parents have the greatest influence on adolescent free-time use, the mediating role of peers and the community must be important considerations. This present research will focus on the role of parents, and does not investigate the influence of peers.
Focus of the Current Research

The previous chapters have demonstrated that despite the volume of research on parental monitoring there are some noteworthy gaps. Of course, all of these issues cannot be addressed within the scope of a single research program, and therefore this project will focus on expanding research knowledge of parent-adolescent interactions using the framework set out in the process model of parental monitoring.

This project consists of four studies. Study 1 is a qualitative study that explores adolescent perceptions of parental monitoring, with a focus on pre free-time and post free-time monitoring interactions. This study uses a qualitative methodology, comprising interviews with 49 adolescents aged between 12 and 16 years. Study 2 uses self-report data from a population-based survey of adolescent to investigate whether traditional parental monitoring variables could be modelled into the behavioural sequence suggested in the process model. This second study uses structured equation modelling with data from a sample of 1299 adolescents. Study 3 continues to investigate the relationships between pre free-time monitoring behaviours, post free-time monitoring behaviours, parent-adolescent relationship quality, and defiant adolescent behaviours. This study uses path modelling and logistic regression analysis with self-report data from a sample of 210 parents and 202 adolescents. Finally, Study 4 is exploratory in design, and uses a case study methodology with two families experiencing high conflict. This study compares the monitoring interactions seen in therapeutic sessions to the self-report ratings of monitoring by parents and adolescents.
This research builds on prior research through its examination of and attempt to answer the following research questions:

*Research Questions for Study 1*

1. Do adolescent perceptions of monitoring interactions correspond with the constructs proposed in the process model of monitoring?
2. What are adolescent perceptions of rule and limit setting, disclosure, and solicitation by parents?
3. To what extent do adolescent perceptions of monitoring change with development or gender?

*Research Questions for Study 2*

1. Can monitoring variables gathered from an adolescent population based survey be modelled into a linear statistical model, as proposed in the process model of monitoring?
2. Is there a relationship between variables that measure pre free-time and post-free-time behaviours and adolescent problem behaviour?
3. Is there a relationship between the variables that measure pre free-time behaviours, post free-time behaviours, and family conflict?
4. Are there significant differences in male and female adolescent reports of monitoring?
Research Questions for Study 3

1. Can a self-report measure of parental monitoring be developed that will adequately describe pre free-time and post free-time monitoring behaviours, from parents and adolescents?

2. Can monitoring data from parents and adolescents be modelled into a statistical linear sequence that corresponds with the process model of parental monitoring?

3. Is the relationship quality of parent-adolescent dyads important to monitoring interactions?

4. To what extent is there correspondence between parent and adolescent reports of monitoring?

5. Does the pattern of associations between monitoring constructs, parent-adolescent relationship quality, and adolescent defiant behaviour differ for parents and adolescents?

6. Do gender and age contribute significantly to the relationships between monitoring constructs and problem behaviours, as reported by adolescents and parents?

Research Questions for Study 4

1. Do self-report measures of monitoring correspond with behavioural observations of monitoring interactions?

2. To what extent will an intervention to improve parent-adolescent relationships impact on monitoring interactions?
CHAPTER 4 - STUDY 1: A QUALITATIVE STUDY OF ADOLESCENT PERCEPTIONS OF PARENTAL MONITORING

Rationale

The literature on parental monitoring has provided a narrow view of the monitoring construct. To overcome this and gain a more comprehensive picture of monitoring this first study took an exploratory approach. A qualitative methodology was used to gain broad information from adolescents about the monitoring process. This methodology was chosen to allow adolescents to freely discuss interactions with their parents, and paint a picture of what happens before they go out, what happens when they get home, and how monitoring episodes might evolve.

The first objective of this study was to encourage adolescents to discuss each of the key aspects of monitoring, and gain an understanding of the importance of each construct in the proposed process model. It was also necessary to assess if there were any constructs missing from the proposed process-monitoring model. To do this, interviews with broad semi-structured questions about monitoring were conducted. The second objective of this study was to collect information from adolescents at different ages to explore if monitoring interactions change with adolescent development. To meet this objective, adolescents at 12, 14, and 16 years of age were interviewed.

The specific aims of the study were (a) to explore adolescent perceptions of the pre free-time monitoring process, including disclosure before going out, parental rule-setting, and parental questioning (solicitation); (b) to explore adolescent perceptions of the post free-time monitoring processes of adolescent disclosure and parental solicitation; (c) to explore how parents’ respond to the knowledge gained through monitoring interactions, particularly through logical consequences and changes to
future monitoring episodes; and (d) to explore how adolescents respond to the interaction process.

Method

Participants

There were 49 adolescents who participated in group interviews. There were 30 female participants (61%) and 19 male participants (39%). The mean age of participants was 13.2 years, and the age range was 12 years through to 16 years. The students were recruited from three secondary schools in Victoria. One school was located in a large regional town, the second was in an outer suburb of Melbourne with a low socio-economic profile, and the third school was located in suburban Melbourne. This third school had a high proportion of ethnic students participating in the groups.

Students were recruited across three school year levels (years 7, 9, and 11); however for clarity, each group has been given a label analogous to their most frequent age. The 12-yo group comprised 24 students who were all in year 7, which is the first year of secondary school in Victoria. The 14-yo group comprised 17 students who were all in year 9. The 16-yo group comprised eight students, and they were all in year 11. The 16-yo group was somewhat underrepresented in the focus groups because schools were reluctant to have students removed from class to be involved in research during term four, which is the exam period in Australia. The majority of participants were living with both parents (n = 42, 84%), and this was higher than the Australian population rate of 72% (Australian Bureau of Statistics, 1998). The number of
adolescents who reported their parents were separated or divorced \((n = 8, 16\%)\) was
lower than the Australian population rate of 21%.

**Procedure and Materials**

Ethical approval to conduct research within schools was granted from the
Victorian Government Department of Education and Training and RMIT University.
The school principals nominated one class to participate from each year level. The
researcher addressed each class to explain the purpose of the study and invite students
to be involved. Students were given a written explanation of the study to take home to
parents, and were required to return written parental consent to participate (see
Appendix B). The response rate was 28.5% of students from the selected classes.

Interviews were conducted with groups of five to six adolescents, within each
class level. The interviews were 50-minutes in duration and were audio taped. A semi-
structured in-depth interview was used to prompt discussion about adolescent free-time
and parental monitoring. The interview questions were organised around the following
areas: (a) adolescent disclosure of their activities to parents before going out and upon
returning home; (b) parental pre free-time monitoring, including curfews and
solicitation; (c) parental post free-time monitoring, which is parental questioning and
communication with adolescents upon their return home; (d) parental responses to
disclosure from adolescents; (e) adolescent responses to parental monitoring; and (f)
adolescent perceptions of family standards, attitudes, and expectations. A copy of the
interview schedule is included in Appendix A.

The interview groups were conducted with two researchers, the primary
researcher, and a trained co-facilitator. The use of multiple researchers in qualitative
research is thought to elicit a wider range of responses (Erickson & Skull, 1998). The
primary researcher and two co-facilitators met prior to the interviews to agree on the goals and aims of the interviews. A detailed interview protocol was prepared to ensure comparability across interviews; however, open-ended follow-up questions were permitted in order to capture the adolescents’ perspectives on monitoring.

Data Analysis

The data were analysed in three steps, using induction, deduction, and verification techniques. To begin, all interviews were transcribed verbatim from the audiotapes. The first analysis adopted an inductive technique, which was based on grounded theory (Miles & Huberman, 1994; Strauss & Corbin, 1990). The data were reviewed line by line and a list of emerging themes was developed. This step was important to the goal of providing an adolescent voice to the parental monitoring research base; for example, it revealed the trust and deceit themes, which were not evident in the monitoring research.

In the second deductive step, a list of themes was generated from empirical research on parental monitoring, this was compared with the themes generated via induction, and a final list of themes for coding the data was determined. Then, using the NUDIST software program for coding qualitative data the text was coded thematically. Text based on words or phrases that captured the meaning in the data were coded with the appropriate themes, and sub themes. Where a unit of text was relevant to more than one theme, it was coded with multiple codes and allowed to represent more than one concept. For example, the following response was coded into both disclosure and deceit themes: ‘I told my parents, but we didn’t really watch movies, I lied, that’s all I can do’. The data were also coded by age, gender, and basic demographic details.
The final step was to verify the coding. Printouts of random text units, amounting to 30 percent of the total data pool, were extracted from the transcripts and given to an independent researcher to cross code. The inter-rater reliability was .74. The discrepancies tended to result from coding of multiple themes, rather than disagreements in rating of themes. Where there was disagreement in coding, the data were re-evaluated and a consensus decision reached for these data points. Once coding was complete, the data were examined using cross tabulations to highlight related themes, commonalities, and differences among adolescent groups. Finally, an interpretive framework was developed in order to relate the data back to theoretical models of monitoring and the empirical research base.

Results

Descriptive Data

Frequency rates of coded themes were calculated using NUDIST text unit calculations. A text unit is a small segment of text, and in this Study 1 text unit was the equivalent of one line of text. The total number of coded text units from adolescent dialogue was 1242, and there were 361 coded text units from the interviewers. Table 4 shows the breakdown of text units for the interviewers and adolescents, along with a percentage weighting. Parental responses to adolescent free-time activity was the most frequently discussed theme (324 text units), followed by explicit rules (187), post free-time disclosure by adolescents (155), and adolescent responses to parental monitoring behaviours (140). As expected the interviewer dialogue is proportionate to the adolescent dialogue because it includes responses to questions, as well as further questions to clarify adolescent responses.
Table 4

*Frequencies of Coded Text Units for Adolescents and Interviewers*

<table>
<thead>
<tr>
<th>Temporal sequence</th>
<th>Monitoring Construct</th>
<th>Interviewer Dialogue</th>
<th>Adolescent Dialogue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Text Units</td>
<td>% of coded text</td>
</tr>
<tr>
<td>Pre free-time monitoring</td>
<td>Disclosure</td>
<td>26</td>
<td>7.2</td>
</tr>
<tr>
<td></td>
<td>Solicitation</td>
<td>12</td>
<td>3.3</td>
</tr>
<tr>
<td></td>
<td>Rules – Explicit</td>
<td>59</td>
<td>16.3</td>
</tr>
<tr>
<td></td>
<td>Rules – Family</td>
<td>18</td>
<td>5.0</td>
</tr>
<tr>
<td>Post free-time monitoring</td>
<td>Disclosure</td>
<td>47</td>
<td>13.0</td>
</tr>
<tr>
<td></td>
<td>Solicitation</td>
<td>29</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>Deceit</td>
<td>30</td>
<td>8.3</td>
</tr>
<tr>
<td></td>
<td>Trust</td>
<td>18</td>
<td>5.0</td>
</tr>
<tr>
<td>Parental Response</td>
<td></td>
<td>84</td>
<td>23.3</td>
</tr>
<tr>
<td>Adolescent Response</td>
<td></td>
<td>38</td>
<td>10.5</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>361</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Group Profiles and Group Dynamics*

Before describing the data, it is necessary to provide the reader with an overall picture of each group. From the outset, with both interviews and data, it became clear that the adolescents’ experiences and perceptions of monitoring varied markedly depending on their age and development. For this reason, a profile of each group (12-yo, 14-yo and 16-yo) was constructed from content analysis of the responses and the interviewers’ impressions of group dynamics. While these profiles are generalisations, they enable the reader to gain an understanding of the groups, before proceeding with
in-depth analysis of the text. Naturally, some individuals did not conform to their group profile, and this will be discussed in detail further on.

The 12-year-old group

The 12-yo group comprised 12 to 13-year-old adolescents who were in the first year of secondary school. At this age, the young people appeared to be in transition from middle childhood to adolescence, and their activities were still mostly childlike and centred on playing with friends. They tended to mix in same gender cliques, visited their friends houses, played sport, and were driven to outings by their parents. This group generally enjoyed participating in the focus groups, often commenting that they were able to miss class. They chatted freely about their parents, about their disclosure to parents, and their family rules and expectations.

The 14-year-old group

The 14-yo group were 14 to 15 years old, and in their third year of secondary school. Their activities provided them with the opportunity for greater independence and increased time away from family. Many were able to go out unsupervised by adults, including going to the shops, movies, and shopping centres. Many were also able to use public transport, and travel unaccompanied to school or friends’ homes. This group tended to socialise in mixed gender groups. The interviews with this group were characterised by the adolescents’ expressed need for privacy within their families. Although the adolescents were willing to participate, one-word answers were the most common unprompted response from this group. They were initially self-conscious when discussing their social lives and required prompting to expand on their thoughts about monitoring issues.
The 16-year-old group

The 16-yo group were all aged 16 years and in their fifth year of secondary school. This group were emerging young adults. Their activities were going to parties, visiting friends, shopping, and hanging out. Although some were dating, others tended to socialise in mixed gender groups. This group had a high level of autonomy, they used public transport, stayed over at friends’ houses, and some were allowed to drink alcohol. In contrast with the 14-yo group, this group were very candid during the interviews; they freely discussed their parent’s strictness or laxness and readily compared and discussed the differences in their families.

Frequencies of Adolescent Statements

The following sections present analyses of the qualitative responses by interaction type and age group. One difficulty in presenting qualitative data is providing the reader with an understanding of the weight of responses within the groups. To minimize this issue, a frequency table with the number of adolescents that can be attributed to each qualitative response by construct is shown in Table 5. These frequency counts reflect the number of participants that gave a code-able response. To eliminate ambiguity, responses that included yea saying or nodding agreement were not included in these frequencies, and hence Table 5 underestimates the number of participants that agreed with the responses. Verbally agreeing or nodding was typical in all groups, and although this has not been included in the frequency table, it has been considered in the textual interpretations that follow.
Table 5

Number of Specific Statements Made by Age Group

<table>
<thead>
<tr>
<th>Temporal sequence</th>
<th>Monitoring Construct</th>
<th>Qualitative Statements</th>
<th>12-yo</th>
<th>14-yo</th>
<th>16-yo</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>(n =24)</td>
<td>(n =17)</td>
<td>(n =8)</td>
</tr>
<tr>
<td>Pre Free-time</td>
<td>Disclosure</td>
<td>Ring or leave note</td>
<td>2</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tell parents</td>
<td>6</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tell selectively</td>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Don’t tell</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Solicitation</td>
<td></td>
<td>Parents ask direct questions</td>
<td>7</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Rules - Explicit</td>
<td>Curfew time</td>
<td>13</td>
<td>12</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pick-up arrangements</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Permission required</td>
<td>7</td>
<td>7</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Safety rules</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rules - Family</td>
<td>Homework</td>
<td>3</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Activities must be planned prior</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bedtime</td>
<td>1</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Behaviour specific</td>
<td>2</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Peer relationships</td>
<td>-</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parents must know family</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Age restrictions</td>
<td>-</td>
<td></td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Alcohol</td>
<td>-</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Post Free-time</td>
<td>Disclosure</td>
<td>Tell</td>
<td>7</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tell selectively</td>
<td>2</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Don’t tell</td>
<td>-</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Solicitation</td>
<td></td>
<td>Parents ask direct questions</td>
<td>17</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Deceit</td>
<td>Deceit discussed</td>
<td>6</td>
<td>9</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td>Trust discussed</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Parental Response</td>
<td>Upset/worried</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Angry</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Remove privileges</td>
<td>2</td>
<td>16</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yell</td>
<td>1</td>
<td>3</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Lecture</td>
<td>1</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Silent treatment</td>
<td>-</td>
<td></td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Positive discussions</td>
<td>3</td>
<td>7</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Adolescent Response</td>
<td>Try to get own way</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Angry/argue</td>
<td>2</td>
<td>5</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Sulk</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compromise</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pretend they don’t care</td>
<td>1</td>
<td>3</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Turn off</td>
<td>-</td>
<td>2</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

Note: The frequency counts are adolescent verbal responses. Frequency counts do not include yea saying or nodding agreement, which was a common occurrence across all group interviews.
Pre Free-time Monitoring

Adolescent disclosure

Adolescent pre free-time disclosure was defined as adolescent initiated communication to parents about their planned activities, before they went out. See Table 6 for examples of dialogue to support the following analyses.

The 12-yo group reported that their parents expected them to disclose where they were going before going out. Self-reported independence from parental decision-making about their activities was not typical. The 12-yo group reported that parents often drove them to their sporting events, leisure activities, and friends’ homes. Hence, pre free-time disclosure for the 12-yo groups usually consisted of asking permission, or asking to be taken to an activity. A smaller number of adolescents in the 12-yo group expressed limited disclosure patterns. For this group their activities were socialising in unsupervised groups, and their behaviour was more closely aligned to the 14-yo group.

The 14-yo group showed selectivity in their pre free-time disclosure to parents. This group expressed concern that their parents might not always give permission for them to go where they choose. Their most frequent form of disclosure was asking parents permission to go to a friend’s home. Typically, the 14-yo group reported honest disclose to parents before going out, however, spur of the moment changes occurred once they were out, and they reported sometimes going on to another destination. Permission from parents was rarely sought when this occurred. Some adolescents in this group would fully disclose the changed arrangements when they returned home, while others would only tell if they thought their parents might find out anyway.

Pre free-time disclosure for the 16-yo group was strongly linked to adolescent perception of their parents expectations. Some adolescents reported they could talk with their parents about most issues, while others informed researchers that they
disclosed either selectively or not at all. The content of disclosure tended to be similar to the 14-yo group, that is, they would say they were going to a friend’s house, or out with a known friend. Activities for this group were more independent, and they frequently reported impromptu changes to activities and destinations once they were out. Where the parent-adolescent relationship was perceived as good, adolescents also stated that their parents would most likely know that the arrangements may change, and they would tell parents about it when they returned home. These adolescents reported their parents understood them, and they were trusted to do the right thing. In contrast, where 16-yo adolescents reported a difficult parent-adolescent relationship, or there was a perception that parents were too strict, the adolescents continued to use the ruse of going to a friend’s house in order to hide activities their parents may disapprove of.

Table 6

*Qualitative Responses by Age Group on Pre Free-time Disclosure*

<table>
<thead>
<tr>
<th>Monitoring Construct Group Example of Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Free-time Disclosure 12-yo</td>
</tr>
<tr>
<td>14-yo</td>
</tr>
<tr>
<td>16-yo</td>
</tr>
</tbody>
</table>

*Solicitation*

Pre free-time solicitation by parents was defined as parental questioning about adolescent planned behaviour while out, for example, what they plan to do, or who will be there.
Adolescents from the 12-yo group were more likely to report parental pre free-time solicitation, and this was usually questions about where they planned to play, or with whom. Pre free-time solicitation for the 14-yo and 16-yo group was not typically reported, and communication at this time tended to be coded into the categories of disclosure and rule-setting. For example, I tell Mum that I am going to a friend’s house, would be coded as disclosure not solicitation. The 14-yo and 16-yo groups reported that parents expected them to disclose where they were going and whom they would be with, and because they frequently required parental permission, the adolescents complied with their expectations. Only one 14-yo adolescent reported having parents who asked a lot of questions before going out, and there were no 16-yo adolescents who reported this.

Rules

Rules were coded into two categories, explicit rules and family rules, and results will be given separately. An explicit rule was defined as a clear parental statement about curfews, destinations, or friends. The category of family rules is broader in definition, and included family expectations for behaviour, family standards, and principles. Typically, adolescents did not report parents explicitly stated family rules, rather this theme was evident in their dialogue and characterised by comments that their parents expected them to behave in a certain manner.

Explicit rules

Explicit rules for the 12-yo group were limited to concrete instructions, often about safety and evening curfews. Thirteen of the 24 adolescents in this group stated they had clear curfew rules. In this age group, unsupervised independent adolescent
activities were limited. Parents provided explicit rules about what time they should come home from friend’s houses, or what time they would be picked up. Most of the 12-yo group reported they stayed within these boundaries set by their parents. They tended to report that they were not allowed out after dark unless they were driven to an activity, and then collected by parents at a previously agreed time (see Table 7 for examples of dialogue). This group also reported that supervision during the activity was important to parents. It was also apparent that a few adolescents in this 12-yo group had greater independence than their peers. Their dialogue indicated fewer explicitly stated parental rules, and their activities were more similar to those of the 14-yo group, these 12-yo adolescents discussed smoking, hanging out in unsupervised groups, and dating behaviours.

The 14-yo group reported they perceived more freedom from explicit rules than when they were 12 years of age. Several stated, ‘we are not treated like kids anymore’ and their peer groups readily agreed. Nevertheless, their descriptions of explicit rules were similar to the 12-yo group, with 12 of the 17 adolescents reporting rules about curfews. Most reported parents still provided explicit rules about where they could go and what time they should be home. The 14-yo group frequently reported they would come home later than agreed, often stating this was because they were caught up socialising and lost track of time. All 14-yo adolescents agreed that being up to one hour late was O.K., but more than that would result in or a lecture from parents, or not being allowed out next time.

Explicit rules reported by the 16-yo group also focused on curfews. Five of the eight adolescents reported clear curfews, however, the curfew time had been extended to late evening. Most adolescents in the 16-yo group were allowed out until 11pm or
12pm. They also reported that if they were going to be home later than the agreed time then a phone call to parents was expected.

Table 7

Qualitative Responses by Age Group on Rules

<table>
<thead>
<tr>
<th>Monitoring Construct</th>
<th>Group</th>
<th>Example of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explicit Rules</strong></td>
<td>12-yo</td>
<td>Be home before dark</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Be careful crossing the road</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Be home by tea-time</td>
</tr>
<tr>
<td></td>
<td>14-yo</td>
<td>They ask what time, they don’t tell what time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If you say something really late they cut it back</td>
</tr>
<tr>
<td></td>
<td>16-yo</td>
<td>Yea, if I go to the movies they say be back my 11. I’m late then I get a lecture.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If I’m home 5 minutes late I get the look, if I’m half hour late I get the lecture.</td>
</tr>
<tr>
<td><strong>Family Rules</strong></td>
<td>12-yo</td>
<td>What time I should go to bed</td>
</tr>
<tr>
<td></td>
<td>14-yo</td>
<td>My parents say we are not allowed to go out with guys until we are 16</td>
</tr>
<tr>
<td></td>
<td>16-yo</td>
<td>I just say I’m going to a party. She drives me to buy the alcohol and drives me to the party. She wants to know how much I should drink so she buys it.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I’m allowed to go to parties; I’m allowed to drink because she buys me the alcohol. The last party I went I took beer and made fruit tinges; she {Mum} bought the Curacao…</td>
</tr>
<tr>
<td></td>
<td></td>
<td>They don’t believe I should drink until I’m 18.</td>
</tr>
</tbody>
</table>

**Family rules**

Questions about family rules were used to gain a measure of adolescent perceptions of family standards and expectations. Commonly, adolescents reported they were very aware of their parents’ standards for acceptable behaviour, although most stated these standards were not discussed regularly.
For the 12-yo and 14-yo groups parent-adolescent discussions about family rules were instructional. For example, they reported family rules related to what time they should go to bed, completing homework, whom they could associate with, and if they were old enough to go shopping unsupervised. In contrast, the 16-yo group reported family discussions across a broader range of topics, including drugs, alcohol, sexual behaviour, and teen pregnancy. Five adolescents in the 16-yo group reported that they drank alcohol. Three said their parents knew, and they had family rules about how much they could drink (two participants gave code-able responses and one a non-verbal agreement). These adolescents reported their parents took them to buy the alcohol on the way to their parties, and this way their parents felt they would know how much they were drinking. Only one 16-yo adolescent reported her parents expressly forbid alcohol.

Post Free-time Monitoring

Disclosure

According to seven of the 24 adolescents in the 12-yo group, they would usually disclose their activities upon returning home. The extent of disclosure related to concrete activities, for example where they went, if they had fun, and who else was there. The 12-yo group reported some limited desires for privacy, for example, they did not want to disclose information about conversations with friends. Some adolescents in this group said talking to parents was ‘boring’, or they would ‘only do it if they ask’ while others said they enjoyed talking to their parents. This group reported their parents wanted to know they were safe and if they had fun.

For the 14-yo group privacy was a strong theme, with nine of the 17 participants stating they disclosed selectively to parents, and the remainder of
adolescents agreeing. The statements from this age group were assertive, stating their right to independence and privacy. Disclosure for this group also tended to be factual, for example, where they went and whom they were with. For some adolescents in the 14-yo group, privacy was important because they perceived their parents would not approve of either their activities, or their friend’s activities. They reported concern about their parent’s reaction to friend’s behaviour, that they may be informing on their friend, or that they may not be allowed to associate with them in future.

The 16-yo group provided mixed responses in relation to their disclosure when returning home from an outing. Four of these adolescents reported they told their parents what they had been doing, two reported they selectively told parents, and two reported they avoided disclosing their activities.

Finally, an important disclosure theme that emerged was adolescent attitudes to disclosure to mothers compared with fathers. Typically, adolescents reported more disclosure to their mothers than fathers. Some expressed concern about fathers being too strict, not trusting them, or not trusting boys with their daughters. A sample of the comments about disclosure with mothers compared to fathers is shown in Table 8.
Table 8

*Qualitative Responses by Age Group on Post Free-time Disclosure*

<table>
<thead>
<tr>
<th>Monitoring Construct</th>
<th>Group</th>
<th>Example of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disclosure</td>
<td>12-yo</td>
<td>Its boring {talking to parents}</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I like talking to Mum</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I don't talk to my parents much - because they are my parents they don't need to know everything</td>
</tr>
<tr>
<td>14-yo</td>
<td></td>
<td>Yes you don't want them to know every single detail; you do have your own lives. Our parents don't go I went to work today.... they don't sit down and tell us every single detail.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>You don't really want to tell them everything you have to keep something to yourself</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tell them mundane stuff, {like} what we had for tea {entire group nod in agreement}</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tell them the bits they approve of so you would be allowed to go out next time</td>
</tr>
<tr>
<td>16-yo</td>
<td></td>
<td>I explain most of the time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I tell 80% of the time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>They would not have any idea</td>
</tr>
<tr>
<td>Disclosure to Mothers v. Fathers</td>
<td>16-yo</td>
<td>My Mum trusts me but Dad is strict, he doesn't let me do as much as I wish I could</td>
</tr>
<tr>
<td></td>
<td></td>
<td>My mum knows when I'm lying, she can see straight through me. She knows. But I tell her when she's in a better mood - I'll say you know Friday night.....But she'll say don't let your dad find out. I'm scared of his reaction, because I'm the oldest... I'm his baby</td>
</tr>
</tbody>
</table>

*Deceit and trust*

Questions about deceit and trust parents were not in the initial interview schedule. However, after two groups were conducted it became apparent that these were important themes to the adolescents, and the interview schedule was adjusted accordingly. Adolescents from all age groups reported lying and trust were important,
and linked these to disclosure. Six of the 24 adolescents in the 12-yo group reported lying to their parents, 9 of the 17 adolescents in the 14-yo group, and 5 of the 8 adolescents in the 16-yo group. There were also unquantifiable nods of agreement from many of the remaining adolescents. While all age groups reported they lied to their parents, the degree and severity differed.

In the 12-yo group some adolescents reported they had lied by omission, claiming motives of either: not wanting to worry their parents, avoiding disciplinary action, or attempts to increase independence and decision-making (see Table 9 for examples of responses). Most of the 12-yo group reported making up acceptable excuses for being late to appease their parents. The adolescents often confided to the interviewer that they were actually late because they were with friends instead of going straight home.

The 14-yo groups reported that they also lied by omission, and frequently reported that by omitting information they were not directly lying to their parents. This group were characterised by concerns that their parents saw them as less mature, and therefore they needed to be selective in the information they revealed to parents.

The 16-yo group was more likely to lie to cover activities when they perceived their parents would not approve or give permission. Some adolescents in this group also stated their parents used other strategies to verify their suspicions. For example, 16-year-old Emma reported her parents did not like her going out with her 18-year-old boyfriend, so she had been lying to them:

Yeah I'm nervous when I walk in the door and they look at me. I'm wondering if they have rung the house (of boyfriend) and know something. If I walk in the door happy then they think I'm telling the truth.
Table 9

*Qualitative Responses by Age Group on Deceit and Trust*

<table>
<thead>
<tr>
<th>Monitoring Construct</th>
<th>Group</th>
<th>Qualitative Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disclosure - Deceit</td>
<td>12-yo</td>
<td>Mum says where are you going - and you say down the street to something, and you kind of go a bit further, and she asks how it was, and you say, yea, nothing else about it. I make up excuses if I'm really late - like the traffic lights - and she is just like yea O.K. Just say you got a detention, or you have a project, or need to practice.</td>
</tr>
<tr>
<td></td>
<td>14-yo</td>
<td>I don't say what happens because what usually happens isn't good.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Me and my friends go out and do stuff, and they are not going to know about it.</td>
</tr>
<tr>
<td></td>
<td>16-yo</td>
<td>My mum knows when I'm lying, she can see straight through me. She knows. But I tell her when she's in a better mood - I'll say you know Friday night.....But she'll say don't let your dad find out. I'm scared of his reaction, because I'm the oldest... I'm his baby.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I went out Friday night and we watched movies, {that's what} I told my parents, but we didn't really watch movies. I lied, that's all I can do.</td>
</tr>
<tr>
<td>Solicitation - Trust</td>
<td>14-yo</td>
<td>If you tell your parents one thing and then go and do another its like they can't trust you anymore. I remember once I did something that I shouldn't have because I wasn't really listening and then I couldn't go out. You have to earn it then and it takes a while to earn it back.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Say I have been with one of my friends, like my parents trust me to choose whom I want to be with, but I know something about one of friends and we go off and she smokes or something. I feel uncomfortable about that because that's not something I'd do, but seeing I was with her I feel guilty about hanging around her.</td>
</tr>
<tr>
<td></td>
<td>16-yo</td>
<td>I've been really really late and my Mum just like lost the trust completely because I said I would be home at 7 and I didn't come home until like 11 or something. I was only around the corner at a friend's house. ......She didn't really know if I was going out or anything. I got a big lecture. I had to help her with heaps of stuff to get her trust back. Took me ages to get it back. I didn't ask to go out for ages.</td>
</tr>
</tbody>
</table>
**Trust**

Trust was recognized as valuable to parent-adolescent relations across all age groups, particularly with older adolescents. Three of the 24 adolescents in the 12-yo group made statements about trust, compared with 6 of the 17 adolescents in the 14-yo group, and 5 of the 8 adolescents from the 16-yo group. Some adolescents claimed the consequences of breaking parental trust were inhibitors of misbehaviour. Loss of independent behaviour was often stated as a consequence of broken trust. Adolescents reported the effort required to reverse lost trust was considerable.

Adolescent perceptions of trust were linked to the perceived discipline style of their parents. A small number of adolescents reported that their parents were too strict and this was unjust; they stated, ‘my parents don’t trust me’. Some adolescents acknowledged that the lost trust was also an outcome of their prior misbehaviour. Rationalisation of this strictness was also evident, with adolescents reporting their parents claimed to be strict because when they were younger they had misbehaved, and they did not want their children to repeat the same mistakes. Others reported that older siblings had misbehaved and ‘wrecked it for all of us’. Overall, when adolescents reported their parents did not trust them they would also be more likely to report lying or omitting important information.

**Solicitation**

The interview schedule specifically asked adolescents to describe what happens when they return home from independent activities. The aim was to find out if parents ask questions, or if the adolescents spontaneously discussed their activities. Results follow, with sample responses shown in Table 10.
In the 12-yo group the adolescents indicated their parents would know where they were most of the time. Seventeen of the 24 adolescents in the 12-yo group reported that their parents do ask questions, and it this was considered acceptable.

The majority of the 14-yo group also stated that parents ask questions when they returned home. However, there was a marked change in their comments about parental solicitation when they return home. As indicated previously, privacy was important and they expressed resentment when asked too many questions. Specifically, this group did not favour parental questions about conversations with friends, or their friends’ behaviour. This group showed resentment toward ‘too many questions’, but when asked to quantify what constituted too many questions the answers were varied.

The 16-yo group acknowledged that parental anxiety was heightened by their increasing freedom, and the dangers of drugs, alcohol, teen pregnancy, and crime. This group appeared more mature in their attitude to questioning from their parents than the 14-yo group. However, like the 14-yo group they stated that parental questions should remain within acceptable boundaries, such as ensuring safety. They also resented too many questions and expected a degree of privacy.
Table 10

Qualitative Responses by Age Group on Post Free-time Solicitation

<table>
<thead>
<tr>
<th>Monitoring Construct</th>
<th>Group</th>
<th>Qualitative Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solicitation</td>
<td>12-yo</td>
<td>Mum worries a lot so she would ask everything, did I have a good time, who was I with, where to, all the information.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I get heaps of questions my Mum is just interested in what I do.</td>
</tr>
<tr>
<td></td>
<td>14-yo</td>
<td>It annoys me all the questions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It’s like 20 questions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yea, my mum says were have you been, why were you later, rah, rah, rah... [How many questions are too many?] More than one, what you did that’s all right, but not whom you were with....</td>
</tr>
<tr>
<td></td>
<td>16-yo</td>
<td>Dinnertime is the worst time in my house, when my brother and sister-in-law come they ask me questions out of the blue. You feel like you are being pecked at all the time</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sometimes they go over the top about where you are. Like I go down to the street and they go where were you. Like where were you at 4 o’clock, and where were you at 5.30</td>
</tr>
</tbody>
</table>

Parent and adolescent responses

The final themes considered adolescent perceptions of events that typically followed parental solicitations and/or adolescent disclosure. Parental response was defined as the parental behaviour that was a directly followed from the knowledge parents gained through disclosure and solicitation, and adolescent response was defined as adolescent responses to their parent’s response.

To determine the typical parental responses adolescents were asked to share information about what happens if they return home one hour late from an activity. For the 12-yo group this was outside the experience of many of the adolescents, and they simply reported they did not know. In contrast, the 14-yo and 16-yo groups reported
this had happened to them and their parents’ responses were similar. These groups reported their parents generally gave them a lecture, yelled at them, restricted future outings, or took privileges away. Loss of privileges to these adolescents included restriction of independent activities, removing telephone privileges, and restricting television or computer use.

Adolescent responses to parental monitoring behaviours were not age dependant; instead, responses appeared to be related to the parent-adolescent relationship quality. The variety of responses is shown in the previous frequency table (Table 5). Some adolescents talked of acceptance and compromise. Others reported that being lectured or yelled at was distressing. In addition, some adolescents reported they would get angry with parents for interfering in their free-time. Typically, adolescents in the 14-yo and 16-yo groups reported that they would attempt to reduce the length or severity of parental discipline by nagging, crying, and pleading. Many claimed this could be effective in getting parents to change their mind.
### Parent and Adolescent Responses to Monitoring Interactions

<table>
<thead>
<tr>
<th>Monitoring Construct</th>
<th>Group</th>
<th>Example of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parental Responses</strong></td>
<td>14-yo</td>
<td>Get a lecture</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Get yelled at</td>
</tr>
<tr>
<td></td>
<td>16-yo</td>
<td>I just get the lecture then the silent treatment, which makes me feel horrible, I hate my parents after that, it's like we are not talking about this anymore</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mum gives me a lecture, and then Dad gives me a different lecture about how he used to sneak out at night</td>
</tr>
<tr>
<td><strong>Adolescent Responses</strong></td>
<td>14-yo</td>
<td>Usually sit down and negotiate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Get quiet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tell them to shut up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I get really angry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If I don't get what I want I suck up to her</td>
</tr>
<tr>
<td></td>
<td>16-yo</td>
<td>My Mum would let me go, my Dad wont. I'm going to talk to Mum, she know how to work my Dad. I don't care if I have to sneak out, I'm going.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I wanted to go to a ...party. They wouldn't let me so I tried to wear them down, and they did a bit, but they still wouldn't let me go</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mum might protest but if I get upset she lets me go, if I start to cry she does too</td>
</tr>
</tbody>
</table>

### Identifying Poorly Monitored Adolescents

Following the interviews, researchers gave global ratings on the extent that each adolescent appeared to be monitored. Of the 49 participants, eight (16.3%) were identified as poorly monitored or reported high level of distress in monitoring dialogue with parents. These adolescent responses were characterised by limited parental control over curfews and activities, with high levels of conflict, and distress surrounding
interactions. These adolescents reported that parental consequences for inappropriate behaviour were ignored, fought over, or not followed through by parents.

Table 12

Qualitative Examples from Poorly Monitored Adolescents

<table>
<thead>
<tr>
<th>Age</th>
<th>Qualitative Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>14-yo</td>
<td>I've come home 2 hours late and they said I wasn't allowed out for a week, but I was out the next night</td>
</tr>
<tr>
<td>16-yo</td>
<td>Her reasons are like 'you should be spending more time with your family'. I hate that. When I am at home I sit in my room anyway. They make me stay home...I said to my Dad what would you do if I just walked out. He said when you come home you will find your bags packed on the doorstep. But I'm only 16. One day I'm going to do it. I don't think they have as much control over me anymore because when I was 14 they would say you are not going to do this and I wouldn't. But now they tell me not to do it and I will go and talk with one of them and I'll say I'm gonna and one of them will come around.</td>
</tr>
</tbody>
</table>

Two boys from the 16-yo group (from different schools) reported markedly dysfunctional family conflict and rule-breaking behaviours. According to these boys, they frequently came home late, were lectured by parents, and then repeating the same pattern the following weekend. Both boys reported ignoring parental attempts to monitor their behaviour. An example of the response from each boy is shown below.

Anthony, stated that he spends most of his time in his bedroom and when asked about rules reported the following. Actually I do (have rules). I never follow them. I go to the city on the weekends, Mum tells me say be back at 10 or something. I come home late go to bed and do it again the next weekend.

Joe, used his older brother's home to cover his activities. My dad says be home by 12 on Friday and Saturday nights and I'll ring up at 1 o'clock and leave a message on the machine saying I'm not coming home tonight. And like at 4 o'clock mum will ring my mobile and I won't answer it. I get home the next day and she says where were you and I say at my brother's.
Discussion

The qualitative data revealed that parent-adolescent monitoring interactions share common processes across the developmental span of adolescence. Across all ages pre free-time monitoring, particularly in the form of adolescent disclosure, was an important method of obtaining parental approval and being granted independence. Explicit and family rules were important in all age groups with older adolescents perceiving greater contributions toward rule-making. Post free-time monitoring in the form of disclosure and solicitation were typical for all adolescents. Two themes that emerged as essential to post free-time monitoring were trust and deceit.

Despite the commonalities, there were marked differences across the age groups in adolescent perceptions of parental monitoring, and clear differences in the processes of monitoring communications. A need to interpret monitoring using age profiles was evident. To summarize the data an interpretive framework was developed to illustrate the relationships between age group, qualitative responses, adolescent behaviour, and perceptions of parental monitoring. This framework represents the typical pattern of monitoring dialogue and responses from adolescents, it does not represent those adolescents who were rated as poorly monitored. The interpretive framework is shown below in Figure 4.
Figure 4. Interpretive framework of monitoring by age group

The 12-yo group reported greater control from parents. This group were often driven by parents to their activities, and then collected afterwards, and hence their independent behaviour was limited. Pre free-time monitoring for this group was characterised by adolescents disclosing their wishes and seeking parental permission. Post free-time monitoring appeared to be directed by parent-initiated questions, with the primary aim of ensuring their offspring was safe and had fun. Parent and adolescent
responses to monitoring interactions revealed the common perception that parents were in charge.

In typically functioning families, the greatest risk period for reduced monitoring appears to be at 14 years, as shown in Figure 4. The 14-yo group was characterised by increasing independence and the common belief that parental control should lessen with their increasing independence. For many adolescents in the 14-yo group their increased independence had exposed them to greater opportunities for misbehaviour, and had also increased their exposure to risks. Disclosure and solicitation for this group were negatively perceived by many adolescents as parental strategies to rein in their independence. The 14-yo group reported more discomfort disclosing to parents, and privacy was a central issue. They reported considerable modification of disclosure, generally to pacify parents, whilst ensuring that their own independence would not be compromised. Parental responses to monitoring interactions included positive conversations, but removal of privileges was the most cited parental response. In turn, adolescents reported that they responded to their parents monitoring behaviours by arguing and being aversive.

By 16 years, the adolescents reported greater independence and less control from parents than they had perceived at 14 years. The curfews reported by this age group had extended to late evening, typically 11pm, and their activities had become more adult like. Pre free-time monitoring was directed by adolescent disclosure, with adolescents providing their parents with prescribed information. This age group did not view pre free-time solicitation favourably. When discussing their monitoring interactions with parents they were more likely to discuss the importance of trust, deceit and their own decision-making abilities. This group appeared more willing to discuss their activities with their parents than they had at 14 years, however, there were
still limits on the extent of post free-time disclosure. Post free-time parental responses included positive communication, but lecturing was also typical. The adolescent response to this was often arguing back or attempting to negotiate a settlement.

A small number of the adolescents reported poor monitoring patterns. This group reported high levels of conflict with parents in pre and post free-time monitoring. For these few adolescents, disclosure was limited and they perceived their relationships with parents negatively. These poorly monitored adolescents stood out among their peers.

Several limitations are placed on the interpretations from this study. These include that the data were qualitative, the sample was small with a greater number of females, and the data was adolescent self-reports only. Despite these limitations the data show that the monitoring process is dynamic. Interpreting the monitoring process using the stages outlined in the proposed process model revealed the complex nature of monitoring interactions. Pre free-time and post free-time monitoring constructs were readily described by all age groups. Deceit and trust also emerged as important to this process. The relationship quality appeared to underpin the monitoring process. The age profiles provided a snapshot of monitoring at each stage, and, while individual adolescents may deviate from this generalisation, there appeared to be clear developmental differences in monitoring interactions. More specifically, solicitation and disclosure were markedly different across the age groups. Future studies comparing adolescent and parental monitoring processes from a more representative sample are needed in order to support these conclusions and further develop the complex picture of parental monitoring interactions. The challenge for future research is to capture the complexity of monitoring interactions across adolescent development.
Rationale

Study 2 reports on data collected from a population-based survey. A sub-section of the data were analysed to investigate whether parental monitoring variables could be modelled into a behavioural sequence as proposed in the process-monitoring model. To do this, it would be necessary to demonstrate that variables which are purported to measure pre free-time monitoring behaviours (for example, setting rules, limits, and curfews), variables measuring post free-time monitoring behaviours (for example, knowing if adolescent is home on time), and variables measuring parent-adolescent responses (for example, interactions or conflict) could be supported in a statistical model that showed a predictive relationship with problem behaviour.

Hypothesised Model

Three constructs were used to test the model, rules, supervision, and conflict. Rules represented one component of parental pre free-time monitoring behaviour, supervision represented one component of post free-time monitoring behaviour, and conflict represented one component of parent-adolescent responses (see Figure 5). The a priori hypotheses were that statistical relationships could be demonstrated between rules and supervision, as these constructs represented parental behaviour before and after adolescent free-time; and that lax rules would predict poor supervision, with poor supervision then predicting adolescent problem behaviour. It was further hypothesised
that lax rules and poor supervision would predict high conflict, and that conflict would predict adolescent problem behaviours.

Figure 5. Hypothesised sequence of parental monitoring behaviours

Legend:
Rules – a component of pre free-time monitoring parental behaviour
Supervision – a component of post free-time monitoring parental behaviour
Conflict – measures the situational family conflict

Method

Participants

Participants in the current study comprised 1299 secondary school students. This was a response rate of 64% for year-9 students across 16 participating secondary schools. The schools were located within regional (large country towns) and rural areas of Victoria, Australia. There were 670 (52.3%) female participants, and 610 (47.6%) male participants. The mean age was 14.67 years ($SD = .514$), while participant ages ranged from 13-years to 16-years; the majority were 14 years of age ($n=445$, 34.5%)
and 15 years of age ($n=814, 63.2\%$) of age. Most participants had Australian born mothers (90.9\%) and fathers (90.5\%). This is higher than the Victorian state rate of 67.5\% for mothers, and 65.5\% for fathers. English was the main language spoken at home (97\%). There were 919 (71.8\%) participants living with both parents, 296 (23.1\%) whose parents were separated or divorced, 34 (2.7\%) that indicated one of their parents had died, and the remaining 31 (2.4\%) fell into the ‘other’ parenting arrangements category. Employment amongst parents was equivalent to Victorian state rates with 84 (6.6\%) fathers unemployed, and 328 (25.7\%) mothers not in the paid workforce. The proportion of mothers that had not finished secondary school was 303 (23.7\%), while 204 (15.9\%) had university level education. There were 300 (23.5\%) fathers that had not finished secondary school, and 215 (16.9\%) with university level education.

**Measures**

The questionnaire used was the Adolescent Health and Well-being Survey (Bond, Thomas, Toumbourou, Patton, & Catalano, 2000), which is a self-report survey that was adapted and extended from the Communities That Care® Youth Survey used in the USA. A copy of the relevant sections from the questionnaire is included in Appendix C. This survey measures a broad range of risk and protective behaviours across four domains: Community, School, Family, and Peer/Individual. Within these domains, there are 35 factor scales, comprised of Likert scale questions. An explanation of the complete survey design and psychometric properties is available in the research report *Improving the Lives of Young Victorians in Our Community: A survey of risk and protective factors* (Bond et al., 2000).
Study 2 reports on a subset of questions that pertain to parental monitoring, family conflict and adolescent problem behaviour taken from the survey commissioned by a regional/rural section of the Victorian Department of Education and Training (Hayes, 2001). For the monitoring and conflict constructs, responses from the family management (alpha .71) and family conflict (alpha .82) subscales were used. For the adolescent problem behaviour construct, responses from rebelliousness (alpha .76), early problem behaviour (alpha .72), and sensation seeking (alpha .78) subscales were used. Further details on the construct items, including direction and scaling used in the model are shown in Table 13.
Table 13

Summary of Items in the Structural Equation Models

<table>
<thead>
<tr>
<th>Survey Domain</th>
<th>SEM Construct</th>
<th>Construct Scoring Direction</th>
<th>Item</th>
<th>Scale</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor family</td>
<td>Rules</td>
<td>High score = clear rules</td>
<td>The rules in my family are clear</td>
<td>A</td>
<td>V1</td>
</tr>
<tr>
<td>management</td>
<td></td>
<td></td>
<td>My parents want me to call if I am going to be late home</td>
<td>A</td>
<td>V2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>My family has clear rules about alcohol and drug use</td>
<td>A</td>
<td>V3</td>
</tr>
<tr>
<td>Poor family</td>
<td>Supervision</td>
<td>High score = more supervision</td>
<td>My parents ask me if I've done my homework</td>
<td>A</td>
<td>V4</td>
</tr>
<tr>
<td>management</td>
<td></td>
<td></td>
<td>When I am not at home one of my parents knows where I am and who I am with</td>
<td>A</td>
<td>V5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>My parents would know if I didn't come home on time</td>
<td>A</td>
<td>V6</td>
</tr>
<tr>
<td>Family conflict</td>
<td>Conflict</td>
<td>High score = high conflict</td>
<td>People in my family often insult or yell at each other</td>
<td>A</td>
<td>V7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>People in my family have serious arguments</td>
<td>A</td>
<td>V8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>We argue about the same things other and over again</td>
<td>A</td>
<td>V9</td>
</tr>
<tr>
<td>Early problem</td>
<td>Problem</td>
<td>High score = greater problem</td>
<td>Have you ever...(if so) how old were you</td>
<td>C</td>
<td>V10</td>
</tr>
<tr>
<td>behaviour</td>
<td>Behaviour</td>
<td>behaviour</td>
<td>been arrested,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>been suspended,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>carried a weapon,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>attacked someone,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>tried marijuana</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rebelliousness</td>
<td>Problem</td>
<td>High score = greater problem</td>
<td>I do the opposite of what people tell me, just to make them angry</td>
<td>A</td>
<td>V11</td>
</tr>
<tr>
<td>behaviour</td>
<td>Behaviour</td>
<td>behaviour</td>
<td>I like to see how much I can get away with</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I ignore rules that get in my way</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Sensation seeking</td>
<td>Problem</td>
<td>High score = greater problem</td>
<td>Have you ever done what feels good just for a buzz</td>
<td>B</td>
<td>V12</td>
</tr>
<tr>
<td>behaviour</td>
<td>Behaviour</td>
<td>behaviour</td>
<td>Have you ever done something dangerous or crazy because you were dared to</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Have you ever done crazy things even if they were a little dangerous</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scale Legend:  A = 4 point Likert scale where 1=NO, 4=YES,  
B = 6 point Likert scale where 1=Never, 6=Yes, once or more each week,  
C = Items scored 1=NO, 2=YES, plus age commenced.
**Procedure**

The data were collected by a regional/rural section of the Victorian Department of Education and Training (Hayes, 2001), with ethical approval granted by the central state education authority. Students completed the questionnaire in class time, during the final term of the 2000 school year. Criteria for assessing the validity of student self-reports was established in previous administrations of the survey (Bond et al., 2000), and were replicated for this study. Students were excluded from the analysis if: (a) they indicated they were ‘not honest at all’ on a 5 item honesty scale; (b) they exaggerated their drug use by reporting the use of a fictitious drug, ‘derbisol,’ or they reported unrealistically frequent use of illicit drugs, other than marijuana, in the past 30 days; and (c) if their pattern of responses to substance abuse questions was inconsistent or illogical. For example, students were identified as inconsistent responders if they were inconsistent on more than half of the substances. This approach did not eliminate students who made occasional clerical mistakes. Of the students participating in the study, 26 (1.0%) were identified by at least one of these three criteria and were excluded from further analysis. Of the students excluded, 12 reported that they were ‘not honest at all’, 12 were excluded for reporting the use of ‘derbisol’, and 2 were identified for inconsistent reporting of substance use.

**Data Analysis**

The data were analysed using AMOS and EQS structured equation modelling computer software programs.
Results

Model Construction

The work of Patterson and colleagues, as discussed in Chapters 1 and 2, provided the theoretical framework for the model construction, and was used to specify the relationship between parental monitoring and problem behaviour. Then, the hypothesised relationship of monitoring behaviours proposed in the process-monitoring model was tested by analysing monitoring into rules (pre free-time monitoring behaviour), supervision (post free time monitoring behaviour), and conflict. Rules formed a latent variable from three indicators: (a) my family has clear rules about drug and alcohol use, (b) the rules in my family are clear, and (c) my parents want me to call if I am going to be late home. Supervision, also a latent variable, had three indicators: (a) when I am not at home one of my parents knows where I am and who I am with, (b) my parents would know if I didn’t come home on time, and (c) my parents ask if I have done my homework. And, the indicators for conflict were: (a) people in my family often insult or yell at each other, (b) people in my family have serious arguments, and (c) we argue about the same things in my family over and over again. The level of problem behaviour was measured using scores on three problem behaviour subscales. The early problem behaviours subscale is a composite score of eight items, questioning students on whether they have been suspended from school, carried weapons, attacked someone, tried marijuana, the age they first smoked, the age they first drank more than a sip of alcohol, and if they drink alcohol regularly. Rebelliousness is a score from three items: (a) I do the opposite of what people tell me just to make them angry, (b) I like to see how much I can get away with, and (c) I ignore rules that get in my way. Finally, sensation seeking is a composite score from three items: Have you ever (a) done what feels good no matter what, (b) done something crazy just for a buzz, and (c)
done crazy things even if they are a little dangerous. For all constructs, the direction of scaling is shown in Table 13. A low score on rules and supervision would be interpreted as an adolescent reporting fewer rules and having poorer supervision, and a high score on conflict and problem behaviour would be interpreted as the adolescent reporting more conflict and increased problem behaviour.

Assumptions and Missing Data

The extent of missing data for each variable is shown in Table 14 and was well under accepted guidelines of 10% (Tinsley & Brown, 2000). Thirteen cases were removed from the data set as they had greater than 40% of data points missing. Missing data diagnosis, conducted using EQS, showed the correlation matrix for dichotomised missing data was close to zero for all variables. Following this, missing data were replaced using a regression imputation calculation, where the missing data was replaced by allowing the remaining two predictors from each latent variable to estimate the score. No change was evident in the means, standard deviations, or correlations after replacing missing data.

Table 14 also presents data relevant to the assumptions of multivariate normality and linearity. Univariate values of skewness and kurtosis are within the assumptions for normality for all variables except V2. However, after transforming this variable using a Log10 transformation, it met the assumptions of normality. Using cases with the largest contribution to Mardia’s coefficient, one outlier was detected and deleted. The remaining contributors to Malahanobis distance showed an acceptable response pattern and were retained. Mardia’s coefficient was 22.97 suggesting multivariate non-normality; therefore, the model was tested using Maximum
Likelihood estimation with a Satorra-Bentler scaled chi-square (Hoyle, 1995; Tabachnick & Fidell, 2001). The final analysis was performed on 1285 cases.

### Table 14

**Descriptive Statistics for Variables**

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>N</th>
<th>n missing</th>
<th>% Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rules</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V1</td>
<td>3.13</td>
<td>.77</td>
<td>.628</td>
<td>.003</td>
<td>1288</td>
<td>11</td>
<td>0.8%</td>
</tr>
<tr>
<td>V2 (transformed)</td>
<td>3.53</td>
<td>.66</td>
<td>1.388</td>
<td>1.596</td>
<td>(0.846)</td>
<td>(0.697)</td>
<td>1.2%</td>
</tr>
<tr>
<td>V3</td>
<td>3.27</td>
<td>.82</td>
<td>.823</td>
<td>-.215</td>
<td>1287</td>
<td>12</td>
<td>0.9%</td>
</tr>
<tr>
<td><strong>Supervision</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4</td>
<td>3.10</td>
<td>.86</td>
<td>.698</td>
<td>-.253</td>
<td>1283</td>
<td>10</td>
<td>0.8%</td>
</tr>
<tr>
<td>V5</td>
<td>3.31</td>
<td>.75</td>
<td>.926</td>
<td>.542</td>
<td>1289</td>
<td>15</td>
<td>1.2%</td>
</tr>
<tr>
<td>V6</td>
<td>3.20</td>
<td>.78</td>
<td>.780</td>
<td>.199</td>
<td>1284</td>
<td>12</td>
<td>0.9%</td>
</tr>
<tr>
<td><strong>Conflict</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V7</td>
<td>2.28</td>
<td>.98</td>
<td>.328</td>
<td>-.839</td>
<td>1285</td>
<td>14</td>
<td>1.1%</td>
</tr>
<tr>
<td>V8</td>
<td>2.02</td>
<td>.94</td>
<td>.652</td>
<td>-.435</td>
<td>1279</td>
<td>20</td>
<td>1.5%</td>
</tr>
<tr>
<td>V9</td>
<td>2.28</td>
<td>.97</td>
<td>.207</td>
<td>-.941</td>
<td>1277</td>
<td>22</td>
<td>1.7%</td>
</tr>
<tr>
<td><strong>Problem Behaviour</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V10</td>
<td>1.70</td>
<td>1.30</td>
<td>.862</td>
<td>.889</td>
<td>1270</td>
<td>29</td>
<td>2.2%</td>
</tr>
<tr>
<td>V11</td>
<td>1.95</td>
<td>.66</td>
<td>.380</td>
<td>-.120</td>
<td>1254</td>
<td>45</td>
<td>3.5%</td>
</tr>
<tr>
<td>V12</td>
<td>2.33</td>
<td>1.23</td>
<td>.973</td>
<td>.423</td>
<td>1248</td>
<td>51</td>
<td>3.9%</td>
</tr>
</tbody>
</table>

**Model Estimation**

The hypothesised model was an adequate fit to the data, and the relevant fit statistics are shown in Table 15. However, post hoc modifications were performed in an attempt to develop a better fitting model. On the bases of the modification indices and theoretical relevance two paths were added, as shown in Table 15. These significant paths demonstrated that there were relationships between the residuals of
the early problem behaviour and sensation seeking variables, and also between the residuals of conflict and rebelliousness. The final model, as presented in Figure 6 and Table 15, was an adequate fit of the data, Satorra-Bentler Scaled \( \chi^2 \) (48, \( N = 1285 \)) = 153.11, \( p < .001 \), CFI = .967, RMSEA = .045, CMIN/DF = 3.18, with 40% of the variance in early problem behaviours being predicted by lax rules, high conflict, and poor supervision. Chi square difference tests indicated the final model was a significant improvement over the hypothesised model.

Although a priori hypotheses were established, alternative models were tested for comparison. Model 1 tested whether a single monitoring construct (combining rules and supervision) and the latent variable conflict would adequately predict problem behaviour. Model 2 tested whether rules and supervision would have a direct effect on conflict, and whether conflict would then directly effect problem behaviour. As shown in Table 15, these alternative models did not fit the data as well as the hypothesised model.
Table 15

Comparison of Fit Statistics for Structural Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Scaled $X^2$</th>
<th>df</th>
<th>CFI</th>
<th>RMSEA</th>
<th>$X^2$ difference to final</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesised model. Rules $\rightarrow$ Supervision plus Conflict $\rightarrow$ Problem Behaviour</td>
<td>191.10</td>
<td>50</td>
<td>.956</td>
<td>.051</td>
<td>37.99*</td>
</tr>
<tr>
<td>Final model. Residual covariance between conflict and rebelliousness added, residual covariance between sensation seeking and early problem behaviour added</td>
<td>153.11</td>
<td>48</td>
<td>.967</td>
<td>.045</td>
<td></td>
</tr>
<tr>
<td>Alternate Model 1. Monitoring and Conflict $\rightarrow$ Problem Behaviour</td>
<td>268.98</td>
<td>52</td>
<td>.934</td>
<td>.061</td>
<td>115.87*</td>
</tr>
<tr>
<td>Alternate Model 2. Rules plus Supervision $\rightarrow$ Conflict $\rightarrow$ Problem Behaviour</td>
<td>313.88</td>
<td>50</td>
<td>.990</td>
<td>.069</td>
<td>122.78*</td>
</tr>
</tbody>
</table>

Note: * $p < .001$
Final Model and Direct Effects

The standardised solution for the final model is shown in Figure 6, with the unstandardised model included in Appendix D. The results show that rules had a direct effect on supervision, $\beta = 0.912$, $z$ (1285) = 10.880, $p < .001$, and a negative direct effect with conflict $\beta = -0.325$, $z$ (1285) = 8.176, $p < .001$. Therefore, when rules and supervision scores were high, conflict scores were lower. Rules had a negative indirect effect on problem behaviour, mediated through conflict and supervision, $\beta = -0.550$, $z$ (1285) = 10.19, $p < .001$. A better fit of the model was evident when rules was mediated through supervision, rather than having a direct effect on problem behaviour, and this is accounted for by the strong relationship between rules and supervision. Conflict had a direct effect on problem behaviour, $\beta = 0.254$, $z$ (1285) = 5.914, $p < .001$, indicating that when conflict scores were high problem behaviour scores were also high. Supervision also had a negative direct effect on problem behaviour, $\beta = -0.512$, $z$ (1285) = 8.897, $p < .001$, indicating that when supervision scores were low problem behaviour scores were high. The correlations among variables in the final model are shown in the Table 16, all correlations were significant at $p < .001$. The patterns of correlations are in the direction expected with rules and supervision negatively correlated with conflict and problem behaviour. To summarize, when rules and supervision were lower, conflict was higher, and there was increased problem behaviour reported.

Finally, a group comparison by gender of the unstandardised regression coefficients showed that lax rules had a stronger relationship with conflict
for girls (-.0779) than boys (-0.396), while the relationship between other latent variables was similar for both genders.

Figure 6. Structural model of rules, supervision, conflict, and problem behaviour, standardised solution.
Table 16.

*Correlations of Observed Variables*

<table>
<thead>
<tr>
<th>Variables</th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
<th>V5</th>
<th>V6</th>
<th>V7</th>
<th>V8</th>
<th>V9</th>
<th>V10</th>
<th>V11</th>
<th>V12</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V2</td>
<td>0.279</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V3</td>
<td>0.351</td>
<td>0.240</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V4</td>
<td>0.229</td>
<td>0.267</td>
<td>0.258</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V5</td>
<td>0.332</td>
<td>0.340</td>
<td>0.285</td>
<td>0.242</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V6</td>
<td>0.261</td>
<td>0.335</td>
<td>0.288</td>
<td>0.323</td>
<td>0.405</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V7</td>
<td>-0.205</td>
<td>-0.099</td>
<td>-0.165</td>
<td>-0.190</td>
<td>-0.155</td>
<td>-0.095</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V8</td>
<td>-0.202</td>
<td>-0.095</td>
<td>-0.142</td>
<td>-0.128</td>
<td>-0.138</td>
<td>-0.083</td>
<td>0.655</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V9</td>
<td>-0.185</td>
<td>-0.082</td>
<td>-0.118</td>
<td>-0.157</td>
<td>-0.160</td>
<td>-0.083</td>
<td>0.579</td>
<td>0.604</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V10</td>
<td>-0.194</td>
<td>-0.092</td>
<td>-0.258</td>
<td>-0.163</td>
<td>-0.271</td>
<td>-0.164</td>
<td>0.214</td>
<td>0.244</td>
<td>0.195</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V11</td>
<td>-0.261</td>
<td>-0.129</td>
<td>-0.230</td>
<td>-0.151</td>
<td>-0.276</td>
<td>-0.170</td>
<td>0.285</td>
<td>0.303</td>
<td>0.315</td>
<td>0.428</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>V12</td>
<td>-0.192</td>
<td>-0.122</td>
<td>-0.229</td>
<td>-0.140</td>
<td>-0.335</td>
<td>-0.174</td>
<td>0.187</td>
<td>0.187</td>
<td>0.168</td>
<td>0.530</td>
<td>0.428</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Note: All correlations were significant at p < 0.01 level (2-tailed)
Discussion

The results of this study support previous research showing a direct relationship between parental monitoring and problem behaviour (Ary, Duncan, Biglan et al., 1999; Ary, Duncan, Duncan et al., 1999; G. M. Barnes et al., 2000; Kim et al., 1999; Metzler et al., 1994; Patterson, 1995; Patterson & Bank, 1987; Patterson et al., 1992; Patterson & Yoerger, 1997). Rules, supervision, and conflict were shown to have a significant relationship with problem behaviour, and accounted for 40% of the variance. Therefore, where adolescents reported that their parents provided clear rules, asked questions about their activities, and they perceived low conflict, the adolescent was less likely to report they had engaged in the problem behaviours of rebelliousness, sensation seeking, substance use, and alcohol use. Although, interpretations from this study are limited by the self-report survey methodology and the inability of statistical models to infer causality, the results provide initial groundwork for future studies to examine the specific component behaviours of monitoring.

This study aimed to test whether traditional monitoring variables could be modelled into a behavioural sequence, as proposed in the process-monitoring model, and initial support was evident. This proposed theoretical model purports that monitoring occurs in distinct stages that evolve across each monitoring episode. Firstly, pre free time monitoring behaviours are parental monitoring behaviours evident before the adolescent goes out (for example, rules or curfews); second, post free-time monitoring are monitoring behaviours evident when the adolescent returns home (based on solicitation or disclosure); third in the episodic sequence are the parental responses to the adolescent disclosure (for example, yelling or lecturing); and these are followed by adolescent responses (for example, acquiescence or defiance). Responses
to monitoring within each episode will influence the behaviour of parents and adolescents for the next monitoring episode. This final step may be the key element in understanding the direction and evolution of monitoring behaviours, and it is based on empirically sound social learning principles.

Finally, this study included conflict as a key construct. The reader will recall that conflict is essential to our understanding of the coercive family processes, and the present author argues that the level of conflict will contribute to an understanding of adolescent disclosure or parental responses. In the final model, rules had a direct relationship with conflict, and conflict had a direct relationship with problem behaviour. Again, this implies that where parents set clear rules they may find it easier to supervise their adolescents, are likely to have lower conflict levels, and are less likely to have adolescents engaging in problem behaviour.

Past research on monitoring and conflict (Formoso et al., 2000) had alluded to some gender differences in the monitoring and conflict constructs. This study considered groupwise regression coefficients from the final model to examine possible gender differences across the model, for rules, supervision, and conflict. With the exception of the rules-conflict coefficient, there were no important gender differences in the other parameters, and therefore individual gender based models were not constructed. The results indicate that there is a stronger relationship between rules and conflict for girls, suggesting that for girls, where rules are lax conflict is more likely to be higher than the same situation for boys. Formoso et al. (2000) also found a stronger relationship between poor monitoring and conflict for girls from high conflict homes.

Limitations & Conclusions

The self-report survey methodology limits the interpretations from this study. The variables used were based on self-report data from adolescents aged 14 to 15 years
only. Although past research has shown that adolescents provide more accurate monitoring information than parents, who tend to overstate their monitoring (Patterson et al., 1992), future models that gather data from multiple sources may provide a more valid test of the model. In addition, structured equation modelling was used to determine if the data would fit a hypothesised model of parental monitoring, and as with all SEM models, an alternative model may be plausible.

The goal of this study was to test whether parental monitoring could be modelled, using the process-monitoring model framework. The final model provided preliminary support for a temporal sequence in monitoring behaviours. However, a thorough test of the processes of parental monitoring using measures that are broader and specifically designed for pre free-time monitoring (rules, limits, standards for appropriate behaviour etc) and post free-time monitoring (disclosure, solicitation) was needed.
The literature review revealed few studies have examined the pattern of behaviours that may constitute parental monitoring. The alternative view that is adopted in this thesis, and detailed in the proposed process model, purports that an understanding of monitoring requires knowledge of parental behaviours that occur prior to adolescent free-time, knowledge of the interactions that occur post free-time, including parental solicitation and adolescent disclosure, and finally some understanding of parent and adolescent responses to monitoring interactions. In addition, the process model purports that an important contributor to monitoring interactions is the parent-adolescent relationship, and also the context of the family.

The aim of Study 3 was to further test the constructs proposed in the process-monitoring model, and determine if monitoring constructs could be modelled into a linear sequence. To do this an Internet based questionnaire was developed to administer to parents and adolescents. The first objective was to develop constructs that would measure the behaviours that contribute to monitoring interactions. The second objective of this study was to understand the contribution of parent-adolescent relationships to monitoring, and this was measured by using an established measure of parent-adolescent conflictual relations. The third objective was to use data from a sample of non-clinical adolescent males and females, and also from a sample of parents, and compare the associations from the two samples.
The hypothesised model to be tested in this study is shown in Figure 7. The conflictual-relationships measure used was the Conflict Behaviour Questionnaire (CBQ Prinz et al., 1979; Robin & Foster, 1989), which is considered a reliable measure for assessing conflictual-relationships as a setting event, rather than situational conflict. The remaining variables in the hypothesised model constituted the monitoring interaction constructs. Rule-setting was measured to assess pre free-time monitoring behaviour. Adolescent disclosure and parental solicitation were measured to assess post free-time monitoring behaviours. Then, the monitoring outcome was measured through a construct labelled tracking. Tracking was considered a measure that would tap into parental knowledge and awareness of adolescent activity. This study also collected self-report data on adolescent defiant behaviours, including alcohol use, smoking, and deviant peer association, in order to test the relationships with monitoring.

The a priori hypotheses were that significant relationships could be demonstrated between the monitoring and conflict constructs. Specifically, that rule-setting and conflictual-relationships would be correlated, as these two measures represented behaviours that occur before adolescent free-time activity; and, that conflictual-relationships and rule-setting would predict adolescent disclosure and parental solicitation. It was also hypothesised that adolescent disclosure and parental solicitation would predict tracking. Tracking is a measure of parental capacity to be aware and informed of adolescent free-time activity. Further, it was anticipated that age and gender would have significant effects on the monitoring variables, with younger adolescents and girls reporting higher parental monitoring. And, it was hypothesised that parents and adolescent would show similarly correlated patterns of responding, but

1 For unity in this thesis, references to the Conflict Behavior Questionnaire will be made using Australian English spelling.
have different weighted responses. It was also hypothesised that tracking would significantly predict defiant behaviours in both parents and adolescents. It was also anticipated that as a consequence of social desirability, parents would tend to report higher tracking, and therefore the relationship to defiant behaviours would be weaker for parents than it was for adolescents.

Figure 7. Hypothesised model of monitoring constructs, conflictual-relationship, and defiant behaviours.
Method

Participants

Participants in the study were 202 adolescents and 210 parents of adolescents. They completed a questionnaire that was designed to allow adolescent and parent data to be matched by birth date, postcode, and family characteristics. However, there were only a small proportion of families (36 pairs) where both the adolescent and their parent participated in the research, and therefore the data from parents and adolescents will be interpreted as separate unmatched sample groups, with the exception of paired analysis for this sub sample where appropriate. For clarity, data from adolescent responders will be preceded by the letters ‘SR’ to denote adolescent self-report, and the data reported by parents will be preceded by ‘PA’ to denote parent reports about their adolescents.

The demographic characteristics of the sample are shown below in Table 17 and 18. For the SR adolescent sample, the mean age of adolescents was 15.29 years ($SD = 1.57$). There were 141 (70.1%) SR female participants, 60 (29.9%) SR male participants, and one participant who did not report their gender. Most SR adolescents were born in Australia ($n = 169, 83.7$%), the majority had Australian born mothers (75.1%), and two thirds had Australian born fathers (66%). Two thirds of the SR adolescents were living at home with both parents, and 25.5% reported their parents were divorced or separated. The education level and employment status of mothers and fathers, as reported by the SR adolescents, is also shown in Table 19.

For the PA parent data there were 177 (84.3%) mothers who participated in the research, 22 (10.5%) fathers, 7 carers (3.5%), and 4 unspecified. The mean age of the PA adolescents was 14.93 years ($SD = 1.81$). There were 120 (57.7%) PA female
adolescents, and 86 (41.3%) PA male adolescents. Most PA adolescents were born in Australia \((n = 163, 77.8\%)\). Approximately two-thirds of PA adolescents had Australian born mothers (65.9%), and approximately two thirds had Australian born fathers (65.2%). There were 61.9% of parents who reported that their adolescent lived at home with both parents, and 25.7% who reported they were separated or divorced. The education level and employment status of mothers and fathers as reported by the PA parents is also shown in Table 19.

Table 17

*Demographic Characteristics of Adolescents, as Reported by Adolescents (SR) and Parent (PA) Responders*

<table>
<thead>
<tr>
<th>Variable</th>
<th>SR Adolescents ((N = 202))</th>
<th>PA Adolescents ((N = 210))</th>
<th>Group comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of Adolescent ((M, SD))</td>
<td>15.29 (1.57)</td>
<td>14.93 (1.81)</td>
<td>(ns^a)</td>
</tr>
<tr>
<td>Sex of Adolescents ((n, %))</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>141</td>
<td>70.1</td>
<td>120</td>
</tr>
<tr>
<td>Male</td>
<td>60</td>
<td>29.9</td>
<td>86</td>
</tr>
<tr>
<td>Total Group ((% of N))</td>
<td>201</td>
<td>100</td>
<td>206</td>
</tr>
<tr>
<td>Adol. Birth Country ((n, %))</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Australian born</td>
<td>169</td>
<td>83.7</td>
<td>163</td>
</tr>
<tr>
<td>- Overseas born</td>
<td>28</td>
<td>13.9</td>
<td>43</td>
</tr>
<tr>
<td>Total Group ((% of N))</td>
<td>197</td>
<td>97.6</td>
<td>206</td>
</tr>
</tbody>
</table>

Note: \(^a\) denotes \(t\) test for analysis of mean differences
\(^b\) denotes chi square analysis of group differences
Adjusted alpha of .017
Table 18

Demographic Characteristics of Parents, as Reported by Adolescent (SR) and Parent (PA) Responders

<table>
<thead>
<tr>
<th>Variable</th>
<th>SR Adolescents (N = 202)</th>
<th>PA Parents (N = 210)</th>
<th>Group comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>% of n</td>
<td>n</td>
</tr>
<tr>
<td>Mother's Birth Country (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Australian born</td>
<td>148</td>
<td>75.1</td>
<td>116</td>
</tr>
<tr>
<td>- Overseas born</td>
<td>49</td>
<td>24.9</td>
<td>60</td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>197</td>
<td>97.6</td>
<td>176</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father's Birth Country (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Australian born</td>
<td>130</td>
<td>66.0</td>
<td>15</td>
</tr>
<tr>
<td>- Overseas born</td>
<td>67</td>
<td>34.0</td>
<td>8</td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>197</td>
<td>97.6</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parental Living Arrangements (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother and father living together</td>
<td>131</td>
<td>66.8</td>
<td>130</td>
</tr>
<tr>
<td>Separated or divorced</td>
<td>50</td>
<td>25.5</td>
<td>54</td>
</tr>
<tr>
<td>One or Both Died</td>
<td>6</td>
<td>3.1</td>
<td>2</td>
</tr>
<tr>
<td>Never lived together</td>
<td>2</td>
<td>1.0</td>
<td>6</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>3.6</td>
<td>10</td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>196</td>
<td>97.0</td>
<td>202</td>
</tr>
</tbody>
</table>

Note:  
- ns denotes chi square analysis of group differences
- Adjusted alpha of .007
Table 19

Employment and Education Characteristics of Parents, as Reported by Adolescent (SR) and Parent (PA) Responders

<table>
<thead>
<tr>
<th>Variable</th>
<th>SR Adolescents (N = 202)</th>
<th>PA Parents (N = 210)</th>
<th>Group comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>% of n</td>
<td>n</td>
</tr>
<tr>
<td>Mother’s Education (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Didn’t complete high school</td>
<td>53</td>
<td>27.0</td>
<td>32</td>
</tr>
<tr>
<td>High school level</td>
<td>42</td>
<td>21.4</td>
<td>53</td>
</tr>
<tr>
<td>TAFE or Trade school</td>
<td>17</td>
<td>8.7</td>
<td>47</td>
</tr>
<tr>
<td>University</td>
<td>50</td>
<td>25.5</td>
<td>51</td>
</tr>
<tr>
<td>Don’t Know</td>
<td>34</td>
<td>17.3</td>
<td>1</td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>196</td>
<td>97.0</td>
<td>184</td>
</tr>
<tr>
<td>Father’s Education (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Didn’t complete high school</td>
<td>58</td>
<td>29.7</td>
<td>3</td>
</tr>
<tr>
<td>High school level</td>
<td>33</td>
<td>16.9</td>
<td>4</td>
</tr>
<tr>
<td>TAFE or Trade school</td>
<td>30</td>
<td>15.4</td>
<td>3</td>
</tr>
<tr>
<td>University</td>
<td>42</td>
<td>21.5</td>
<td>12</td>
</tr>
<tr>
<td>Don’t Know</td>
<td>32</td>
<td>16.4</td>
<td>0</td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>195</td>
<td>96.5</td>
<td>22</td>
</tr>
<tr>
<td>Mother’s Employment (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full time</td>
<td>77</td>
<td>39.3</td>
<td>60</td>
</tr>
<tr>
<td>Part time</td>
<td>63</td>
<td>32.1</td>
<td>70</td>
</tr>
<tr>
<td>Not working</td>
<td>56</td>
<td>28.6</td>
<td>54</td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>196</td>
<td>97.0</td>
<td>184</td>
</tr>
<tr>
<td>Father’s Employment (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full time</td>
<td>150</td>
<td>79.8</td>
<td>11</td>
</tr>
<tr>
<td>Part time</td>
<td>20</td>
<td>10.6</td>
<td>7</td>
</tr>
<tr>
<td>Not working</td>
<td>18</td>
<td>9.6</td>
<td>4</td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>188</td>
<td>93.1</td>
<td>22</td>
</tr>
</tbody>
</table>

Note: $^b$ denotes chi square analysis of group differences
Adjusted alpha of .007
Demographic data from SR adolescents and PA parents were compared to assess group differences in the two samples. Three comparisons were made of adolescent characteristics, and therefore the alpha was adjusted to a significance level of .017 using a Bonferroni correction. There was a significant difference in the gender of adolescents for the SR adolescent and PA adolescent groups, $\chi^2 (1, N = 407) = 6.259, p = .012$, with more female adolescents in the SR adolescent group. For the group comparisons of parent characteristics there were seven comparisons made and a Bonferroni adjusted alpha of .007 was used to determine significance. A significant difference was found on mother’s education between SR adolescent reports and PA parent reports, $\chi^2 (4, N = 380) = 51.32, p < .001$. Examination of the standardised residuals indicated that the high proportion of SR adolescents who responded ‘don’t know’ to the question on their mother’s education level contributed to this significant result (standardised residual = 3.8). A significant difference in father’s education level was also seen between the SR adolescent group and the PA parent group, $\chi^2 (4, N = 217) = 14.15, p = .007$. Chi square comparisons of father’s employment also revealed a significant difference between the SR adolescent and PA parent group, $\chi^2 (2, N = 210) = 10.54, p = .005$. Examination of the standardised residuals indicated a higher proportion of fathers who were either working part time or not working, amongst the PA parent responders (standardised residual = 2.5 and 1.1 respectively).

**Procedures**

Recruitment of participants was completed in two phases. In the first phase, participants were recruited directly in schools, and in the second phase, participants were recruited through advertisements in newsletters.
Recruitment in schools

In phase one ethical approval to conduct research within schools was granted from the Victorian Government Department of Education and Training and RMIT University. Four schools participated in the study. Three of the schools were located in large regional towns, and one was in suburban Melbourne.

Adolescents and their parents were recruited on a voluntary basis. Recruitment began by giving adolescents a flyer with brief written information on the study, a plain language explanation for their parents, and a statement of informed consent (Appendix H). In accordance with regulations on conducting research in schools, set out by the Victorian Department of Education and Training, all adolescents were required to return written parental consent in order to participate in the research. Adolescents were able to complete the questionnaire online using school computers, while parents completed the questionnaire in printed format. Upon return of the signed consent form adolescents were provided with web site details and a log on password, and were able to complete the questionnaire using the school computer networks. Parent questionnaires were posted directly to parents and returned via reply paid postage. All adolescents who were invited to participate in the study were eligible to enter their name in a random draw to receive either free music CDs or disposable cameras, irrespective of parental consent being granted.

The response rates were very poor. Consultations with principals and school welfare staff were unable to substantiate any problems with the nature of the questionnaire or study. However, staff informed the researcher that their schools were involved in many research projects during each school term, with principals receiving daily requests from university students to participate in research projects, and all projects require active parental consent. The final number of responses in this ‘schools’
group was 56 SR adolescents (40 on school computers and 16 in written format), and
the final number of PA parents was 48 (all written responses).

Recruitment in newsletters

For the second phase, the questionnaire was adapted to allow recruitment via
newsletters, with adolescents and parents able to complete the questionnaire online at
home. The flyer advertising the web site was circulated through schools and parenting
newsletters (Appendix H). The online survey provided a plain language statement and
participants were required to provide online consent by checking confirmation boxes
before being able to proceed through the website. Adolescents were requested to
provide online parental consent before proceeding with the questionnaire.
Correspondence promoting the web site was distributed to 753 locations; this included
505 Australian secondary schools, 16 parenting magazines, and 232 flyers that were
sent through the present author’s personal networks. These flyers advertised the study,
and requested recipients place the notice in their newsletters to inform parents and
adolescents of the study. The number of responses received from this recruitment
method was 308; this comprised 162 parents and 146 adolescents.

Comparisons of demographic characteristics of participants recruited through
schools and newsletters were performed (see Tables 34 to 37 in Appendix I). A two
tailed t-test with unequal variances revealed a significant difference in the age of
participants in these two groups, \( t(264.07) = 4.491, p < .001, 95\%\text{CI} (.39, 1.02). \)
Adolescents in the schools group were approximately 8 months younger on average.
Comparisons of the school and newsletter groups revealed there were significant
differences in adolescents’ country of birth, \( \chi^2 (1, N = 403) = 20.62, p < .001. \)
Examination of the residuals revealed there were more overseas born adolescents in the
newsletter group (standardised residuals = 2.1). There were also significant differences
between school and newsletter responders for mother’s country of birth, $\chi^2 (1, N = 373) = 12.45, p < .001$, and fathers country of birth, $\chi^2 (1, N = 220) = 11.15, p < .001$.

Examination of expected frequencies revealed that there were fewer overseas born mothers and fathers amongst school responders. There was also a difference amongst the groups in mother’s education $\chi^2 (4, N = 380) = 43.16, p < .001$, with examination of the residuals indicating that a greater proportion of the mothers in the school recruitment group either did not have high school education (standardised residuals = 3.2), or the adolescent responders did not know their mother’s education level (standardised residuals = 2.3). Fathers also differed in education across the two groups, $\chi^2 (4, N = 217) = 26.48, p < .001$, with fewer fathers having university education in the school recruitment group (standardised residuals = 3.1). A difference was also found in father’s work status $\chi^2 (2, N = 210) = 9.87, p = .007$, with a greater proportion of the school recruitment group having fathers who were not working (standardised residuals = 2.5). The small number of fathers who were not in paid employment made these differences difficult to interpret. The overall differences in the two groups are likely to be an outcome of the location of schools, as three of the four schools who completed the measures directly through schools were located in regional towns in Victoria.

**Measures**

The self-report survey measured two parent-adolescent relationship aspects, monitoring and conflictual-relationships. The questionnaires used for the written and online versions were identical (see Appendices E, F and G).

The monitoring section of the questionnaire was developed from theoretical assumptions of the monitoring process, and adaptations to existing monitoring
questionnaire research. The monitoring questionnaire comprised 11 questions. The questions aimed to tap into the solicitation, disclosure, tracking, and rule-setting aspects of monitoring. Each item was scored using a 5-point Likert scale ranging from 1 – *never*, through to 5 – *always*. Parents and adolescents completed parallel versions of the scale, and were required to rate monitoring interactions over the preceding two-weeks. The scale was scored with high scores reflecting more positive monitoring interactions, with items M2, M4, M8 and M10 reverse scored. Full details of the items are provided in Appendix E. The psychometric properties of the monitoring scale are discussed in the results section.

Three items were also included as a measure of adolescent defiant behaviours. The items asked adolescents and parents to report if they were (a) allowed to smoke cigarettes, (b) allowed to drink alcohol, (c) if there were kids they were not allowed to ‘hang’ around with. Items were scored using a 3 point scale were; 1 = *yes*, 2 = *no*, and 3 = *no, but I do it anyway*. Based on responses to these items participants were classified into permissive, prohibited, and defiant groups. Details of these classifications will be elaborated on in the results section.

The short form of the Conflict Behaviour Questionnaire (CBQ-20, Prinz et al., 1979; Robin & Foster, 1989) was used to measure general family conflictual-relationships. The CBQ-20 (see Appendix F) is a measure of perceived communication-conflict behaviour between parents and adolescents, and provides an estimate of the level of negative behaviour perceived by the dyad. Parents and adolescents completed parallel versions of the questionnaire. They were required to rate their interactions over the past two weeks. The 20 items cover two domains, appraisal of the parent-adolescent dyad, and appraisal of the other (that is, parents appraise their adolescent, and adolescents appraise their parent). In the parent version,
items include parental perceptions of their adolescent’s behaviour (for example, my teenager acts impatient when we talk), and parental perceptions of their interactions (for example, my teenager is easy to get along with). The 20-item adolescent version includes adolescent perceptions of their parent’s behaviour (for example, my parent doesn’t understand me), and adolescent perceptions of their interactions (my parent is bossy when we talk). Items are scored true or false, with a number of reverse scored items. High scores on the CBQ-20 indicate greater conflict and increased negativity.

The CBQ-20 has demonstrated sound psychometric properties, and the scale is able to discriminate between distressed and non distressed dyads (Foster & Robin, 1988, 1989; Foster & Stern, 2000). Percentage agreement between parents and adolescents for non-distressed dyads is 84%, and 66-68% for distressed dyads (Foster & Robin, 1988). Coefficient alphas on the full scale for mother reports on adolescents is $\alpha = .88$, and for adolescent reports on mothers is $\alpha = .95$ (Foster & Robin, 1988). In this present study the internal consistency for SR adolescents was $\alpha = .92$ and for parents was $\alpha = .91$.

Data Analysis, Missing Values and Data Screening

The data were analysed using SPSS for descriptive and inferential analysis. Path models were then constructed using AMOS structured equation modelling computer software programs. The aim was to construct models of monitoring and conflictual-relationships to adequately fit the parent and adolescent data. Logistic regression analysis was then performed to understand the associations between the monitoring variables, defiant behaviour, and conflictual-relationships. Gender and age were also included where appropriate.
The extent of missing data for each variable was minimal because the online design of the questionnaire required answers be given to each question before proceeding. The small amount of missing data points are shown in Table 20, and was well under accepted guidelines of 10% (Tinsley & Brown, 2000). Missing monitoring data were not replaced and the cases were excluded from the analysis. Means and standard deviations were also inspected for the purposes of data screening, and are shown in Table 20. Initial inspection of the 11 monitoring variables for normality revealed that the distribution of the monitoring variables was approximately normal, and univariate values of skewness and kurtosis were also within the assumptions for normality with the exception of M3, M5, and M6 having some positive skewness. No transformations were required at this preliminary stage.
Table 20

Data Screening of Monitoring Variables and Conflictual-relationship Scores

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Skew</th>
<th>Kurtosis</th>
<th>N</th>
<th>n missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1 – Parents indicate time to be home</td>
<td>3.86</td>
<td>1.17</td>
<td>-.853</td>
<td>-.151</td>
<td>412</td>
<td>0</td>
</tr>
<tr>
<td>M2 – Adolescent able to choose own free time (R)</td>
<td>2.98</td>
<td>1.08</td>
<td>.304</td>
<td>-.662</td>
<td>408</td>
<td>4</td>
</tr>
<tr>
<td>M3 – Needs to contact parents if late</td>
<td>4.50</td>
<td>.95</td>
<td>-2.117</td>
<td>3.961</td>
<td>410</td>
<td>2</td>
</tr>
<tr>
<td>M4 – Goes places without telling parents (R)</td>
<td>3.58</td>
<td>.95</td>
<td>-.185</td>
<td>-.437</td>
<td>411</td>
<td>1</td>
</tr>
<tr>
<td>M5 – Parents know were I am on the weekend</td>
<td>4.33</td>
<td>.86</td>
<td>-1.485</td>
<td>2.331</td>
<td>411</td>
<td>1</td>
</tr>
<tr>
<td>M6 – Important for parents to always know whereabouts</td>
<td>4.22</td>
<td>.96</td>
<td>-1.306</td>
<td>1.465</td>
<td>412</td>
<td>0</td>
</tr>
<tr>
<td>M7 – Adolescent talks about free time with parents</td>
<td>3.75</td>
<td>1.10</td>
<td>-.636</td>
<td>-.343</td>
<td>408</td>
<td>4</td>
</tr>
<tr>
<td>M8 – Adolescent does things parent does not approve of</td>
<td>3.35</td>
<td>.83</td>
<td>-.451</td>
<td>.534</td>
<td>411</td>
<td>1</td>
</tr>
<tr>
<td>M9 – Parents ask adolescents questions when they return home</td>
<td>3.78</td>
<td>.99</td>
<td>-.404</td>
<td>-.546</td>
<td>411</td>
<td>1</td>
</tr>
<tr>
<td>M10 – Parent tries to find out from others (R)</td>
<td>3.96</td>
<td>1.03</td>
<td>-.978</td>
<td>.593</td>
<td>411</td>
<td>1</td>
</tr>
<tr>
<td>M11 – Adolescent would be in trouble if home one hour late</td>
<td>3.33</td>
<td>1.21</td>
<td>-.163</td>
<td>-.924</td>
<td>411</td>
<td>1</td>
</tr>
<tr>
<td>Conflict Behaviour Questionnaire</td>
<td>6.15</td>
<td>5.60</td>
<td>.842</td>
<td>-.351</td>
<td>409</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: (R) indicates reverse scored item
Results

Construction of Monitoring Scale

The first step was to test for latent factors amongst the monitoring variables, to determine if pre free-time monitoring and post free-time monitoring behaviours would load onto separate factors. Principal Component Analysis (PCA) was used to uncover the latent structure in the 11 monitoring variables, and analysis was performed separately for the parent and adolescent responders by using a pooled method. The pooled method of factor analysis was appropriate for the two samples (parents and adolescents), with a dummy variable (participant) used to determine if the factor loadings were appropriate for each sample. The factor loadings for this dummy variable revealed the factors for which the groups’ mean scores differ. The assumptions for factor analysis of linearity, interval data, multivariate normality, and orthogonality were met. The Kaiser-Meyer-Olkin measure of sampling adequacy was acceptable at .817, and the Barlett’s test of sphericity was significant at $\chi^2 (45, N = 403) = 1181.45$, $p < .001$. Therefore, it was appropriate to proceed with factor analysis on this data.

Initial inspection indicated that two variables had low communalities and these were excluded from the data set (M2, extraction .257, and M10 extraction .278). The PCA with Varimax rotation revealed three factors with eigenvalues greater than 1. Using the pooled data method it was evident that Factor 3 differed considerably in the factor loadings for parents and adolescents. Inspection of the correlation matrix (Appendix J) confirmed that the pattern of correlations differed for the parent and adolescent groups, and therefore, items M7 and M9 were retained as separate variables in the subsequent analysis. For ease of explanation these variables hereinafter are labelled respectively as disclosure and solicitation. The final three factor solution
accounted for 64.6% of the variance. Factor loadings are shown in Table 21, with factor correlations included in Appendix J.

Table 21

Factor Loadings on Monitoring Variables

<table>
<thead>
<tr>
<th></th>
<th>Rule-setting</th>
<th>Tracking</th>
<th>Factor Three</th>
<th>Excluded Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>M11</td>
<td>.806</td>
<td>0.031</td>
<td>-0.080</td>
<td></td>
</tr>
<tr>
<td>M1</td>
<td>.739</td>
<td>-0.034</td>
<td>0.250</td>
<td></td>
</tr>
<tr>
<td>M3</td>
<td>.706</td>
<td>0.181</td>
<td>0.269</td>
<td></td>
</tr>
<tr>
<td>M6</td>
<td>.604</td>
<td>0.299</td>
<td>0.337</td>
<td></td>
</tr>
<tr>
<td>M4</td>
<td>.191</td>
<td>.837</td>
<td>0.127</td>
<td></td>
</tr>
<tr>
<td>M5</td>
<td>.312</td>
<td>.724</td>
<td>0.141</td>
<td></td>
</tr>
<tr>
<td>M8</td>
<td>-0.157</td>
<td>.773</td>
<td>0.071</td>
<td></td>
</tr>
<tr>
<td>M7</td>
<td>0.084</td>
<td>0.322</td>
<td>-.782</td>
<td></td>
</tr>
<tr>
<td>M9</td>
<td>0.312</td>
<td>-0.074</td>
<td>-.702</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.100</td>
<td>0.140</td>
<td>-.809</td>
<td></td>
</tr>
<tr>
<td>M2</td>
<td></td>
<td></td>
<td></td>
<td>Excluded</td>
</tr>
<tr>
<td>M10</td>
<td></td>
<td></td>
<td></td>
<td>Excluded</td>
</tr>
</tbody>
</table>

Note: Extraction Method used was Principal Component Analysis with Varimax rotation
# (R) denotes reverse scored item

Following the factor analysis, the items that contributed to each monitoring factor were summed to create the rule-setting and tracking sub-scale scores. Rule-setting was considered pre free-time monitoring behaviour, because the items that loaded onto this factor related to the establishing of clear rules for curfews and keeping in contact with parents. The second factor was labelled tracking, and was considered a
measure of parental capacity to maintain awareness and be informed about adolescent free-time activity. Higher scores on rule-setting and tracking are indicative of higher parental monitoring. Reliability analysis on the items in rule-setting was $\alpha = .74$, and for tracking reliability was $\alpha = .72$. The remaining variables, which loaded differently for parents and adolescents (M7 disclosure, and M9 solicitation), were retained as unique variables, and high scores are indicative of more communication between parents and adolescents.

Descriptive Statistics on Measurement Model of Monitoring and Conflictual-relationship

The descriptive statistics for the SR and PA groups for each sub-scale of monitoring and conflictual-relationships are so shown in Table 22. Visual inspection of the descriptive statistics and box plots revealed that the distributions for SR adolescents and PA parents differed, with parents scoring higher on rule-setting, disclosure, and solicitation. Of note were some low scoring extreme values on rule-setting and tracking, however, cross checking of the cases did not reveal any patterns to suggest these scores were errors. Furthermore, a participant with an outlying score on one monitoring sub-scale did not show correspondence with outlying scores on the other monitoring sub-scales. Visual inspection did not reveal any considerable difference between SR adolescents and PA parents in conflictual-relationships scores. The sample correlations among variables are shown in appendix K.
Table 22

*Descriptive Statistics for Monitoring and Conflictual-relationship Scores*

<table>
<thead>
<tr>
<th></th>
<th>SR Adolescents (N = 199)</th>
<th>PA Parents (N = 209)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Rule-setting</td>
<td>14.79</td>
<td>3.53</td>
</tr>
<tr>
<td>Tracking</td>
<td>10.69</td>
<td>2.22</td>
</tr>
<tr>
<td>Disclosure</td>
<td>3.13</td>
<td>1.11</td>
</tr>
<tr>
<td>Solicitation</td>
<td>3.38</td>
<td>1.02</td>
</tr>
<tr>
<td>Conflict Behaviour</td>
<td>6.37</td>
<td>5.79</td>
</tr>
</tbody>
</table>

*Construction of Path Model of Monitoring and Conflictual-relationship*

The process-monitoring model of parental monitoring provided the theoretical background for testing the significance of the measurement model of monitoring for the SR adolescent and PA parent data. To do this, a base model with all participants was constructed first, followed by simultaneously fitting models for the parent and adolescent samples. The goal was to test the hypothesised relationship between rule-setting, which was considered to be comprised of pre free-time monitoring variables; tracking, which comprised post free-time variables; and also the disclosure (M7) and solicitation (M9) variables. Following the research of Patterson and colleagues (Patterson, 1982; Patterson et al., 1992) on the importance of conflictual-relationships, the CBQ was included as a scale that would account for ongoing coercion, which was hypothesised as a setting event within the family.

All assumptions for path analysis were tested prior to construction of the model. Assumptions of linearity, model identification, and low multicollinearity were met.
There was an adequate sample size for model testing with 33 parameters and 412 cases, compared with the recommended minimum of 10 cases per parameter (Kline, 1998). In addition, the two critical assumptions in path analysis were also met, in that the residual terms were uncorrelated and also the disturbance terms were uncorrelated with endogenous variables. The model was tested with both the adolescent and parent samples simultaneously, thereby providing one set of fit statistics that encompassed the fit of the complete data set. The alternative method is to code a dummy variable for SR adolescents and PA parents, insert this in the model, and then allow the model to compare mean differences; however, the issue being explored in this data is whether there is a similarity of processes between adolescent and parent samples, and simultaneous cross-sample comparisons are considered methodologically superior (Maruyama, 1998).

**Model Estimation Monitoring and Conflictual-relationship**

A base model was evaluated on the entire data set before attempting to fit the model to the parent and adolescent data. The a priori hypothesised model, shown earlier in the rationale, was not an adequate fit of the data, $\chi^2 (1, N = 412) = 60.80, p < .001$. Inspection of the item correlations and path weights revealed three parameters that were poorly fitting; specifically, the correlation between rule-setting and conflictual-relationship was not significant, the path from conflictual-relationship to solicitation was also not significant, as was the path from solicitation to tracking. In addition, there was a significant relationship between solicitation and disclosure that was unaccounted for in the hypothesised model. After modifying the model to accommodate this information an adequate fit of the data was found, $\chi^2 (3, N = 412) = 1.36, p = .713$, CFI = 1.00, RMSEA = .0, CMIN/DF = .456; however, an interpretation
at this point was considered meaningless, as the model did not account for the two
samples of participants; however, a figure of the base model is provided in Figure 8 for
comparative purposes (see Appendix L for unstandardised solution).

Figure 8. Base model with all participants showing standardised solutions.

Subsequent analysis of this base model with the two data sets revealed that the
model did not adequately fit both the adolescent and parent data, and some
modifications were necessary. For adolescents, the path from rule-setting to disclosure
was not significant and was removed. For parents the path from disclosure to tracking
was not significant and was also removed, and the path from conflictual-relationship to
solicitation was added. This final model was then tested by simultaneously fitting
separate path models for parents and adolescents, with all paths unconstrained. An
adequate fit of the data was found, $\chi^2 (7, N = 202$ adolescents, $N = 210$ parents) =
11.82, \( p = .107 \), CFI = .983, RMSEA = .041, CMIN/DF = 1.68. The standardised solutions for accepted models are presented in Figures 9, with relevant comparisons of fit statistics in Table 23 (path models showing unstandardised estimates are included in Appendix M). Chi square difference tests revealed the final model was a significant improvement over the base model. This adequate model was then tested with common regression paths constrained in order to determine if the common parameters would have equal weight across both samples. However, constraining the paths revealed a very poor fit of the data and the original unconstrained model was retained as the final solution.

In summary, the final model shows differences for parents and adolescents. For the PA parent data the model accounted for 34% of the variance, with conflictual-relationship and rule-setting having direct associations to tracking and solicitation, and disclosure having no relationship to tracking. For the SR adolescent data, the model accounted for 27% of the variance in tracking, with conflictual-relationship, rule-setting, and disclosure having direct associations, but also solicitation showing a mediating effect.

Following the discussion in the literature of the direction of effects, one alternative model was also tested to specifically assess the statistical direction of effects between solicitation and disclosure. To do this, the direction was changed so that disclosure would predict solicitation. As shown in Table 23 this alternative model was a poor fit of the data.
Table 23

Comparison of Fit Statistics for Path Models of Monitoring and Conflictual-relationship

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>N</th>
<th>CFI</th>
<th>RMSEA</th>
<th>X2 difference to final</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesised - Figure 7 (excluding defiant behaviour) – all participants combined</td>
<td>60.80</td>
<td>1</td>
<td>412</td>
<td></td>
<td></td>
<td>48.98***</td>
</tr>
<tr>
<td>Base Model – Figure 8 - All participants combined. Modified by removing three parameters, solicitation to disclosure added</td>
<td>1.36</td>
<td>3</td>
<td>412</td>
<td>1.00</td>
<td>0</td>
<td>10.46**</td>
</tr>
<tr>
<td>Model 2 - Same as Base model, except adolescent and parent groups fitted simultaneously</td>
<td>14.34</td>
<td>6</td>
<td>202, 210</td>
<td>.971</td>
<td>.058</td>
<td>2.52</td>
</tr>
<tr>
<td>Final model – Figure 9 - Adolescents and Parents fitted simultaneously</td>
<td>11.82</td>
<td>7</td>
<td>202, 210</td>
<td>.983</td>
<td>.041</td>
<td></td>
</tr>
<tr>
<td>Alternate Model - Adolescents and Parents fitted simultaneously with direction of effects between Solicitation and Disclosure reversed</td>
<td>21.65</td>
<td>7</td>
<td>.950</td>
<td>.071</td>
<td>9.83</td>
<td>9.83</td>
</tr>
</tbody>
</table>

Note: ** $p < .01$, *** $p < .001$
Figure 9. Final models for parents and adolescents showing standardised solutions.

(Note: fit statistics are fitted simultaneously for both models, and are therefore identical)
Final Model and Direct Effects

The final model will be described separately for parents and adolescents. In this section all references to direct or indirect effects refer to statistical effects, not causal effects.

In the adolescent model there was no relationship between conflictual-relationships and rule-setting. Conflictual-relationship had a negative direct effect on disclosure, $\beta = -0.082$, $z (202) = -6.710$, $p < .001$, and a negative direct effect with tracking $\beta = -0.120$, $z (202) = -4.705$, $p < .001$, and there was an indirect effect of conflictual-relationship on tracking mediated through disclosure, $\beta = -0.120$. Therefore, when conflictual-relationship is high, adolescents reported that disclosure and tracking were low. Rule-setting had a direct effect on tracking, $\beta = 0.137$, $z (202) = 3.511$, $p < .001$, and a direct effect on solicitation, $\beta = 0.099$, $z (202) = 5.148$, $p < .001$. Thus, adolescents reported that when rule-setting was high, solicitation and tracking was also high. There was a direct effect from solicitation to disclosure, $\beta = 0.259$, $z (202) = 3.775$, $p < .001$, and a direct effect from disclosure to tracking, $\beta = 0.462$, $z (202) = 3.408$, $p < .001$. Therefore, adolescents who reported higher solicitation scores were also likely to report high disclosure scores, and high tracking scores. Of interest in the adolescent model is the non-significant relationship between rule-setting and disclosure, and also solicitation with tracking.

In the parent model there was also no relationship between conflictual-relationship and rule-setting. Like the adolescent model, for parents conflictual-relationship had a negative direct effect on disclosure, $\beta = -0.031$, $z (210) = -4.100$, $p < .001$ and a negative direct effect on tracking $\beta = -0.187$, $z (210) = -9.501$, $p < .001$. However, for the parents there was also a negative direct effect between conflictual-
relationship and solicitation, $\beta = -0.021$, $z (210) = -2.248$, $p = .02$, although the size of this relationship was small. Therefore, when conflictual-relationship is high, parents also reported that disclosure and tracking were low, and solicitation was also somewhat lower. Rule-setting had a direct effect on tracking, $\beta = 0.166$, $z (210) = 3.997$, $p < .001$, and a direct effect on solicitation, $\beta = .078$, $z (202) = 3.882$, $p < .001$, but there was also a small direct effect on disclosure, $\beta = 0.033$, $z (210) = 1.996$, $p = .46$. Thus, as it was for adolescents, parents also reported that when rule-setting was high, solicitation and tracking were also high, but there was also a small significant positive effect on disclosure. For parents there was a direct effect from solicitation to disclosure, $\beta = 0.376$, $z (210) = 6.803$, $p < .001$, but this had no relationship with tracking, and there was an indirect effect from rule-setting to disclosure that was mediated by solicitation, $\beta = 0.029$. Therefore, when parents reported higher solicitation scores they also reported high disclosure scores. Of interest in the parent model is the non-significant relationship of disclosure and solicitation with tracking.

To summarise, in the final model, rule-setting was positively related to tracking, while conflictual-relationship had a negative association, and this was the same for parents and adolescents. In contrast, the significance of relationships of rule-setting and tracking to disclosure and solicitation differed for parents and adolescents.

*Parent and Adolescent Matched Sample Data*

There were 36 sets of responses in which the SR adolescent and PA parent data were identified as being from the same parent-adolescent dyad. These participants were matched by date of birth, postcode, demographic characteristics, and time of responding. The concordance rate between matched pairs of adolescents and parents
was significant for rule-setting, \( r = .58 \), tracking, \( r = .65 \), and also conflictual-relationship \( r = .72 \); however, correlations between parents and adolescent were low and non-significant on disclosure \( r = .16 \), and solicitation \( r = .10 \). Matched pairs \( t \)-tests were conducted to assess differences in mean scores between adolescent and parent dyads (as shown in Table 24). A significant difference in the mean scores was found for tracking, \( t (35) = -4.22, p < .001, d = 0.58, 95\%CI (-1.05, -0.11) \), for disclosure, \( t (35) = -4.40, p < .001, d = 0.94, 95\%CI (-1.43, -0.45) \), and also for solicitation, \( t (35) = -4.41, p < .001, d = 0.98, 95\%CI (-1.47, -0.49) \).

Table 24

*Descriptive Statistics for Matched Parent-Adolescent Dyads*

<table>
<thead>
<tr>
<th></th>
<th>SR Adolescents ((n = 36))</th>
<th>PA Parents ((n = 36))</th>
<th>Paired Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( M )</td>
<td>SD</td>
<td>Min-Max</td>
</tr>
<tr>
<td>Rule-setting</td>
<td>15.75</td>
<td>3.20</td>
<td>6-20</td>
</tr>
<tr>
<td>Tracking</td>
<td>11.11</td>
<td>1.95</td>
<td>7-14</td>
</tr>
<tr>
<td>Disclosure</td>
<td>3.50</td>
<td>.94</td>
<td>2-5</td>
</tr>
<tr>
<td>Solicitation</td>
<td>3.36</td>
<td>1.10</td>
<td>1-5</td>
</tr>
<tr>
<td>Conflict Behaviour</td>
<td>5.00</td>
<td>5.85</td>
<td>0-18</td>
</tr>
</tbody>
</table>

Note: **\( p < .001 \)**

*Differences Between Age and Gender*

To assess the contribution of adolescent gender and age, multivariate logistic regression analyses were conducted to predict the contribution of gender and age to the scores on conflictual-relationship, rule-setting, disclosure, solicitation, and tracking.
Separate models were run for the SR adolescent and PA parent samples. Multi-sample path modelling could not be used to model the effects of age and gender because of the reduced sample size in the groups.

Table 25

Multivariate Logistic Regression for Predictors on Gender

<table>
<thead>
<tr>
<th></th>
<th>SR Adolescents (N = 202)</th>
<th></th>
<th>PA Parents (N = 210)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR (95%CI)</td>
<td>OR (95%CI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule-setting</td>
<td>1.12 * (1.01, 1.24)</td>
<td>1.00 (0.89, 1.13)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tracking</td>
<td>1.16 (0.96, 1.35)</td>
<td>1.19 (0.98, 1.45)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflictual-relationship</td>
<td>1.08 * (1.01, 1.16)</td>
<td>1.09* (1.02, 1.17)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disclosure</td>
<td>1.18 (0.84, 1.68)</td>
<td>0.86 (0.53, 1.42)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solicitation</td>
<td>1.00 (0.70, 1.42)</td>
<td>1.05 (0.68, 1.62)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Odds ratio for females = 1
* p < .05

For the gender analysis, multivariate logistic regression models were conducted with gender as the dependent variable. The independent variables were tracking, rule-setting, disclosure, solicitation and conflictual-relationship, and age was included as a covariate. The model for gender and SR adolescents was significant, $\chi^2 (7, N = 202) = 16.61, p = .02$, and therefore, the predictors were able to distinguish between the male and female groups. However, the model accounted for only a small proportion of the variance (8% using Cox and Snell R², or 12% using Nagelkerke R²). As shown in Table 25, for the SR adolescent sample the model showed that females were more likely to report higher rule-setting scores than males, OR = 1.12, p = .030, 95%CI (1.01, 1.24), and also females were somewhat more likely to report conflictual-relationship,
OR = 1.08, \( p = .022, 95\% \text{CI} (1.01, 1.16) \). Therefore, there was a greater likelihood that females would score higher on rule-setting and conflictual-relationship, although the size of the effect was small (12\% and 8\% respectively). For the PA parent sample the model was also not significant, and investigation of the predictors revealed that the only variable significantly associated with gender was conflictual-relationship, OR = 1.09, \( p = .014, 95\% \text{CI} (1.02, 1.17) \). Therefore, while there were some statistically significant results for gender, the size of the odds ratios suggests that gender does not contribute large effects overall on predictions of tracking, conflictual-relationship, rule-setting, disclosure, and solicitation.

To determine the contribution of adolescent age to the variables in the model, multivariate multinomial logistic regression analyses were performed using three age groupings, 11 to 13-years, 14 to 16-years, and 17 to 18-years, as the dependent variable. Multinomial logistic regression is similar to logistic regression, but the dependent variable can have more than two categories. These age groups were determined from visual inspections of the sample distributions and theoretical assumptions of adolescent development. The regression analysis was performed using the 17 to 18-years-old adolescents as the reference group (odds ratio = 1.00). Again, the independent variables were rule-setting, tracking, disclosure, solicitation and conflictual-relationship, and gender was included as a covariate. The analysis was performed separately for the SR adolescent, and PA parent samples.

For the SR adolescent data the model was significant, \( \chi^2 (12, N = 202) = 33.99, p < .001 \), and therefore the predictors were able to distinguish between the three age groups. As shown in Table 26, there were significant positive relationships found for rule-setting amongst 11 to 13-year-olds, OR = 1.42, \( p = .001, 95\% \text{CI} (1.17, 1.74) \), and also for the 14 to 16-year-olds, OR = 1.19, \( p = .002, 95\% \text{CI} (1.06, 1.32) \). In both age
groups there was an increased likelihood that younger groups would report higher rule-setting. For adolescents, there was a significant positive relationship found for tracking amongst 11 to 13-year-olds, OR = 1.45, $p = .014$, 95%CI (1.07, 1.96), but this was not significant for 14 to 16-year-olds.

Significant associations were also found for PA parents between age, rule-setting, and tracking. There was a positive association with rule-setting for 11 to 13-year-olds, OR = 1.41, $p = .002$, 95%CI (1.14, 1.75), and also with 14 to 16-year-olds, OR = 1.25, $p = .004$, 95%CI (1.07, 1.45). For parents, there was also a significant positive relationship found for tracking amongst 11 to 13-year-olds, OR = 1.97, $p < .001$, 95%CI (1.39, 2.78), and a significant association with 14 to 16-year-olds, OR = 1.56, $p < .001$, 95%CI (1.19, 2.03).

In summary, for rule-setting and tracking a similar pattern was seen in both the SR adolescent and PA parent data. There was a decline in the odds of having a high score on rule-setting as age increased. That is, when compared with the 17 to 18-year-old reference group (odds ratio = 1.00), the 11 to 13-year-old group were between 42% (SR) and 41% (PA) more likely to report higher rule-setting, and the 14 to 16-year-old group were between 19% (SR) and 25% (PA) more likely to report higher rules. There was also a decline in the odds of having a high tracking score as age increased. When compared with the 17 to 18-year-old reference group (OR = 1.00), the 11 to 13-year-old group were between 45% (SR) and 97% (PA) more likely to report higher tracking, and the 14 to 16-year-old group were between 18% (SR) and 55% (PA) more likely to report higher tracking. This pattern of reducing odds was not significant for disclosure, solicitation, or conflictual-relationship amongst parents or adolescents.
Table 26

Multivariate Logistic Regression for Predictors on Age

<table>
<thead>
<tr>
<th></th>
<th>SR Adolescents (N = 202)</th>
<th></th>
<th>PA Parents (N = 210)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11-13 years</td>
<td>14-16 years</td>
<td>11-13 years</td>
<td>14-16 years</td>
</tr>
<tr>
<td></td>
<td>OR (95% CI)</td>
<td>OR (95% CI)</td>
<td>OR (95% CI)</td>
<td>14-16 (95% CI)</td>
</tr>
<tr>
<td>Rule-setting</td>
<td>1.42 *** (1.16, 1.74)</td>
<td>1.19 ** (1.06, 1.32)</td>
<td>1.41 ** (1.14, 1.75)</td>
<td>1.25 ** (1.07, 1.45)</td>
</tr>
<tr>
<td>Tracking</td>
<td>1.45 * (1.08,1.96)</td>
<td>1.18 (0.98, 1.42)</td>
<td>1.97 *** (1.39, 2.78)</td>
<td>1.55 *** (1.19, 2.02)</td>
</tr>
<tr>
<td>Conflictual-relationship</td>
<td>1.00 (0.90, 1.11)</td>
<td>1.00 (0.93, 1.07)</td>
<td>1.13 (1.02, 1.27)</td>
<td>1.06 (0.97, 1.17)</td>
</tr>
<tr>
<td>Disclosure</td>
<td>0.98 (0.56, 1.72)</td>
<td>0.77 (0.54, 1.11)</td>
<td>0.87 (0.39, 1.96)</td>
<td>1.09 (0.57, 2.10)</td>
</tr>
<tr>
<td>Solicitation</td>
<td>0.66 (0.37, 1.16)</td>
<td>0.85 (0.58, 1.26)</td>
<td>1.24 (0.61, 2.51)</td>
<td>1.28 (0.73, 2.25)</td>
</tr>
</tbody>
</table>

Note: Reference group for logistic regression is 17 to 18-year-old (OR = 1.00)
* p < .05, ** p < .01, *** p < .001

Differences Between Type of Responders

The final analysis for the associations amongst the monitoring and conflictual-relationships constructs was to consider the effect of the two recruitment methods. The base path model was run with the location of participants used as a grouping variable, and this was found to adequately fit both sets of data using an unconstrained model, $\chi^2(6, N = 308$ Newsletters, $N = 104$ Schools) = 2.85, $p = .827$, CFI = 1.00, RMSEA = .0, CMIN/DF = .475. Inspection of the paths revealed that the path from rule-setting to tracking differed between the groups, however the remaining paths were significant for both groups of responders.
Predicting Defiant Behaviour

To explore the relative effect of the modelled variables, analyses were next conducted using the variables that measured defiant behaviour. Three multinomial logistic regression analyses were conducted on three dependent variables, smoking, alcohol use, and deviant peer associations. For adolescents these variables indicated if they smoked, drank alcohol, or were prohibited from associating with some peers; for parents the variables reported on parental permissiveness and awareness towards smoking and alcohol use, and also if parental restrictions were placed on deviant peer associations. The responses from each of these variables were conceptualised into three categories: defiant, permissive, and prohibitive. The independent variables were tracking, rule-setting, conflictual-relationship, disclosure, and solicitation. Age and gender were also included as covariates in each model. The analyses were completed separately for the SR adolescents and PA parent samples; hence, six multinomial logistic regression analyses were performed.

In the analysis, the odds ratios are expressed as a probability ratio with respect to the reference categories, which was greater parental prohibition; that is, not allowed to smoke, not allowed to drink alcohol, and parental restrictions on deviant peer associations. Thus, a probability ratio less than 1.00 would imply that the participants were less likely to have the same level of tracking, rule-setting, disclosure or solicitation. The probability direction is reversed for the conflictual-relationship scale, because this is scored with higher scores corresponding to higher conflict, and therefore a probability greater than 1.00 would imply that the participants had higher levels of conflict than the reference category. The correlations among all variables in the model are shown in Table 27.
Table 27

**Correlation Among Monitoring and Conflictual-relationship Predictors and Defiant Behaviour Variables**

<table>
<thead>
<tr>
<th></th>
<th>Adolescents below diagonal, Parents above diagonal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>1 Rule-setting</td>
<td>.20** .04 .22** .25** .10 -.03 .11 -.37** .05</td>
</tr>
<tr>
<td>2 Tracking</td>
<td>.25** -.53** .18** .17* .48** .50** -.13 -.31** .05</td>
</tr>
<tr>
<td>3 Conflictual-relationship</td>
<td>.02 -.40** -.30** -.14* -.26** -.47** .23** -.02 .13</td>
</tr>
<tr>
<td>4 Disclosure</td>
<td>.16* .39** -.40** .48** .16* .08 .01 -.07 -.08</td>
</tr>
<tr>
<td>5 Solicitation</td>
<td>.34** -.04 .13 .18* .12 .00 .04 -.10 .00</td>
</tr>
<tr>
<td>6 Drinking Alcohol b</td>
<td>.16* .39** -.14* .18* .02 .47** .02 -.34** -.08</td>
</tr>
<tr>
<td>7 Smoking b</td>
<td>.04 .32** -.10 .12 -.06 .39** -.09 -.14* -.05</td>
</tr>
<tr>
<td>8 Deviant Peers b</td>
<td>.29** .11 .09 -.10 -.03 .02 .01 -.11 -.01</td>
</tr>
<tr>
<td>9 Age in years</td>
<td>-.31** -.24** .00 -.02 .00 -.25** -.13 -.15* -.06</td>
</tr>
<tr>
<td>10 Gender a</td>
<td>.21** .13 .12 .08 .09 -.07 -.02 .04 -.05</td>
</tr>
</tbody>
</table>

Note:  
- a 10 Gender coded as 1 = male, 2 = female.
- b 6 Drinking Alcohol, 7 Smoking, and 8 Deviant Peers coded as 1 = deviant, 2 = permissive, 3 = prohibitive.

* $p < .05$, ** $p < .01$ Pearson 2-tailed correlation

For SR adolescents, the overall multinomial regression model for drinking alcohol was significant, $\chi^2 (16, N = 202) = 107.91, p < .001$, indicating that the predictors, as a set, reliably distinguish between the three response categories of the alcohol variable. The likelihood ratio tests on the individual variables in the model (shown in Table 28) revealed that rule-setting, tracking, disclosure, solicitation, gender, and age were significant predictors of the alcohol variable. This model accounted for somewhere between 49.2% (Nagelkerke) of the variance and 27.6% (McFadden) of the variance. Among SR adolescents, the model for smoking was significant, $\chi^2 (16, N = 202) = 41.92, p < .001$, and accounted for somewhere between 24.7% of the variance and 14.1% (Nagelkerke and McFadden respectively). However, the likelihood ratio tests revealed that only tracking was a significant predictor of the smoking variable.

For SR adolescents, the model for restrictions on deviant peers was also significant,
$\chi^2 (16, N = 202) = 40.45, p < .001$, accounting for somewhere between 24.8% of the variance and 14.1% (Nagelkerke and McFadden respectively). The likelihood ratio tests on the individual variables in the model (shown in Table 28) show that rule-setting, tracking, and disclosure were significant predictors of the deviant peer variable.

For PA parents, the model for drinking alcohol was significant, $\chi^2 (16, N = 210) = 90.15, p < .001$, indicating that this set of predictors reliably distinguished between the three response categories on the alcohol variable for parents. This model accounted for somewhere between 41.8% (Nagelkerke) of the variance and 22.5% (McFadden) of the variance. The likelihood ratio tests on the individual variables in the model (shown in Table 28) revealed that only tracking and age were significant predictors of the alcohol variable. For PA parents, the model for smoking was significant, $\chi^2 (16, N = 210) = 98.93, p < .001$, and accounted for somewhere between 54.6% of the variance and 39.5% (Nagelkerke and McFadden respectively). The likelihood ratio tests showed that tracking, conflictual-relationship, solicitation, and age were significant predictors of the smoking variable. The model for restrictions on deviant peers was also significant, $\chi^2 (16, N = 210) = 52.31, p < .001$, accounting for somewhere between 29.0% of the variance and 16.5% (Nagelkerke and McFadden respectively), with the likelihood ratio tests showing that Rules Setting, tracking, conflictual-relationship, and age were significant predictors of parental restrictions on deviant peer associations.

Comparisons between the parent and adolescent regression models indicate similarity in associations on the tracking variable, which was significant in all models. However, amongst the remaining predictors the pattern of associations is somewhat different for parents and adolescents.
Table 28

*Overall Model Fit Statistics and Likelihood Ratio Tests for Defiant Behaviours, Monitoring, and Conflictual-relationship*

<table>
<thead>
<tr>
<th>Model Fit</th>
<th>Predictors</th>
<th>( \chi^2 )</th>
<th>df</th>
<th>( \chi^2 )</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Model Fit for Drinking Alcohol</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Rule-setting</td>
<td>7.15</td>
<td>*</td>
<td>2</td>
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</tr>
<tr>
<td></td>
<td>Tracking</td>
<td>26.60</td>
<td>***</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conflictual-relationship</td>
<td>.25</td>
<td>2</td>
<td>1.82</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Disclosure</td>
<td>10.45</td>
<td>**</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solicitation</td>
<td>8.14</td>
<td>**</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gender</td>
<td>7.25</td>
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</tr>
<tr>
<td></td>
<td>Age</td>
<td>24.00</td>
<td>***</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>Overall Model Fit for Smoking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>Rule-setting</td>
<td>2.23</td>
<td></td>
<td>4.86</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Tracking</td>
<td>18.93</td>
<td>***</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conflictual-relationship</td>
<td>3.97</td>
<td>2</td>
<td>11.82</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td>Disclosure</td>
<td>1.41</td>
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<td>2.07</td>
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<tr>
<td></td>
<td>Solicitation</td>
<td>3.95</td>
<td></td>
<td>7.69</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Gender</td>
<td>3.28</td>
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<td>.59</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>3.14</td>
<td></td>
<td>19.49</td>
<td>***</td>
</tr>
<tr>
<td><strong>Overall Model Fit for Deviant Peers</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>17.64</td>
<td>***</td>
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</tr>
<tr>
<td></td>
<td>Tracking</td>
<td>5.99</td>
<td>*</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Conflictual-relationship</td>
<td>3.25</td>
<td>2</td>
<td>10.54</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td>Disclosure</td>
<td>6.35</td>
<td>*</td>
<td>.56</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Solicitation</td>
<td>2.61</td>
<td></td>
<td>1.56</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Gender</td>
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</tr>
<tr>
<td></td>
<td>Age</td>
<td>0.52</td>
<td></td>
<td>9.47</td>
<td>*</td>
</tr>
</tbody>
</table>

Note: * \( p < .05 \), ** \( p < .01 \), *** \( p < .001 \)

Table 29 provides the parameter estimates for the SR adolescent sample (\( N = 202 \)); descriptive statistics have also been included, in order to make the
interpretation of odds ratios more meaningful. For the alcohol variables, tracking was negatively associated with the SR adolescent defiant response ‘not allowed to drink alcohol but do it anyway,’ with a significant odds ratio of OR = 0.48, \(p < .001\), 95%CI (0.35, 0.67). Hence, adolescents who responded defiantly were 52% less likely to have the same tracking score as adolescents who responded that alcohol was prohibited by parents. Rule-setting was negatively associated with the permissive response ‘yes allowed to drink alcohol’ OR = 0.87, \(p = .032\), 95%CI (0.77, 0.99), although the effect was not large, with adolescents who reported that alcohol was allowed being 13% less likely to have the same rule-setting score as adolescents who were not allowed to drink alcohol. There was one gender effect for the alcohol measure, with boys 82% more likely to respond defiantly, OR 0.18, \(p = .02\), 95%CI (0.04, 0.75).

An expected age effect was found for the permissive response to the alcohol variable, with this response significantly less likely to be reported among the 14 to 16-year-old age group, OR = 0.29, \(p = .009\), 95%CI (0.11, 0.73), and also the 11 to 13-year-old group, OR = 0.04, \(p < .001\), 95%CI (0.01, 0.20). For disclosure, there was a positive relationship among adolescents who reported parental permissiveness on the alcohol variable, OR = 1.60, \(p = .0.17\), 95%CI (1.07, 2.41), and a negative relationship with solicitation, OR = 0.61, \(p = .012\), 95%CI (0.41, 0.91). Taken together these last two findings indicate that adolescents who reported that they were allowed to drink alcohol also reported higher disclosure and lower solicitation.

For the smoking variable among SR adolescents, tracking was found to be negatively associated with reports that they were ‘not allowed to smoke but do it anyway’ with a significant odd ratio of OR = 0.56, \(p < .001\), 95%CI (0.42, 0.75). Therefore, adolescents who responded defiantly were 44% less likely to have the same tracking score as adolescents who reported that they were not allowed to smoke
cigarettes. There were no other significant effects for smoking, and no age or gender effects.

For the peer association variable, SR adolescents who reported defiantly that there were peers they were not allowed to associate with but they ‘hang out with them anyway,’ there was a negative association with tracking, OR = 0.55, p = .024, 95%CI (0.32, 0.92), a negative association with rule-setting, OR = 0.73, p = .027, 95%CI (0.56, 0.96), and somewhat surprisingly, a positive association with disclosure, OR = 3.19, p = .023, 95%CI (1.17, 8.73). This complex finding showed that if adolescents reported deviant peer associations in spite of parental objections, they were 45% less likely to have the same tracking score as the reference group, 27% less likely to have higher rule-setting, and 219% more likely to report disclosure. However, the broad confidence interval on disclosure would suggest this finding might be spurious. Adolescents who responded that their were no restrictions on peer associations were more likely to report lower rule-setting, OR = 0.77, p < .001, 95%CI (0.67, 0.88).

There were no significant relationships between the Conflictual-relationships scale and the three behaviour questions. Overall, these results show that with lower tracking there was a significant increase in reporting of defiance in the smoking, alcohol use, and peer association questions.
Table 29

Parameter Estimates for Multinomial Logistic Regression with SR Adolescent Responders

<table>
<thead>
<tr>
<th></th>
<th>M (SD) OR Sig. 95% CI</th>
<th>M (SD) OR Sig. 95% CI</th>
<th>M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Drinking Alcohol</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule-setting</td>
<td>15.31 (3.40) 1.05 ** 0.88 1.25</td>
<td>13.57 (3.67) 0.87 * 0.77 0.99</td>
<td>15.95 (2.98)</td>
</tr>
<tr>
<td>Tracking</td>
<td>8.52 (1.67) 0.48 *** 0.35 0.67</td>
<td>10.80 (2.27) 0.91 0.74 1.13</td>
<td>11.39 (1.79)</td>
</tr>
<tr>
<td>Conflictual-relationship</td>
<td>9.75 (6.91) 0.98 0.89 1.08</td>
<td>5.50 (5.32) 0.99 0.91 1.06</td>
<td>6.19 (5.56)</td>
</tr>
<tr>
<td>Disclosure</td>
<td>2.34 (1.14) 0.70 0.40 1.21</td>
<td>3.31 (1.00) 1.60 * 1.07 2.41</td>
<td>3.17 (1.09)</td>
</tr>
<tr>
<td>Solicitation</td>
<td>3.70 (0.91) 1.14 0.67 1.95</td>
<td>3.11 (0.92) 0.61 * 0.41 0.91</td>
<td>3.53 (1.11)</td>
</tr>
<tr>
<td>Male b</td>
<td>0.18 * 0.04 0.75</td>
<td>0.94 0.42 2.09</td>
<td></td>
</tr>
<tr>
<td>11-13 years c</td>
<td>0.95 0.16 5.76</td>
<td>0.04 *** 0.01 0.20</td>
<td></td>
</tr>
<tr>
<td>14-16 years c</td>
<td>0.44 0.12 1.68</td>
<td>0.29 ** 0.11 0.73</td>
<td></td>
</tr>
<tr>
<td><strong>Smoking</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule-setting</td>
<td>15.46 (2.64) 1.07 0.91 1.27</td>
<td>13.07 (4.70) 0.93 0.82 1.06</td>
<td>15.01 (3.30)</td>
</tr>
<tr>
<td>Tracking</td>
<td>9.17 (1.83) 0.56 *** 0.42 0.75</td>
<td>9.90 (2.40) 0.83 0.66 1.05</td>
<td>11.12 (2.10)</td>
</tr>
<tr>
<td>Conflictual-relationship</td>
<td>7.34 (6.57) 0.93 0.84 1.02</td>
<td>7.45 (6.00) 1.04 0.96 1.13</td>
<td>5.98 (5.61)</td>
</tr>
<tr>
<td>Disclosure</td>
<td>2.75 (1.07) 0.90 0.54 1.51</td>
<td>3.13 (1.28) 1.27 0.81 2.00</td>
<td>3.20 (1.07)</td>
</tr>
<tr>
<td>Solicitation</td>
<td>3.75 (0.90) 1.39 0.82 2.36</td>
<td>3.06 (1.12) 0.73 0.46 1.16</td>
<td>3.38 (1.01)</td>
</tr>
<tr>
<td>Male b</td>
<td>0.34 0.09 1.24</td>
<td>1.10 0.44 2.79</td>
<td></td>
</tr>
<tr>
<td>11-13 years c</td>
<td>2.35 0.40 13.84</td>
<td>0.42 0.08 2.24</td>
<td></td>
</tr>
<tr>
<td>14-16 years c</td>
<td>1.57 0.45 5.52</td>
<td>0.58 0.23 1.47</td>
<td></td>
</tr>
<tr>
<td><strong>Peers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule-setting</td>
<td>13.75 (1.83) 0.73 * 0.56 0.96</td>
<td>14.10 (3.69) 0.77 *** 0.67 0.88</td>
<td>16.45 (2.67)</td>
</tr>
<tr>
<td>Tracking</td>
<td>9.12 (2.23) 0.55 * 0.32 0.92</td>
<td>10.67 (2.23) 0.93 0.77 1.12</td>
<td>10.92 (2.13)</td>
</tr>
<tr>
<td>Conflictual-relationship</td>
<td>8.25 (6.22) 1.00 0.85 1.17</td>
<td>5.77 (5.52) 0.94 0.88 1.00</td>
<td>7.51 (6.25)</td>
</tr>
<tr>
<td>Disclosure</td>
<td>3.62 (1.60) 3.19 * 1.17 8.73</td>
<td>3.15 (1.07) 1.15 0.79 1.67</td>
<td>3.00 (1.09)</td>
</tr>
<tr>
<td>Solicitation</td>
<td>3.88 (0.99) 1.88 0.70 5.03</td>
<td>3.33 (1.00) 1.26 0.88 1.81</td>
<td>3.40 (1.08)</td>
</tr>
<tr>
<td>Male b</td>
<td>0.29 0.02 2.92</td>
<td>1.05 0.48 2.30</td>
<td></td>
</tr>
<tr>
<td>11-13 years c</td>
<td>0.80 0.04 15.00</td>
<td>0.72 0.22 2.29</td>
<td></td>
</tr>
<tr>
<td>14-16 years c</td>
<td>1.20 0.16 8.55</td>
<td>1.00 0.42 2.36</td>
<td></td>
</tr>
</tbody>
</table>

Note: Reference categories for multivariate logistic regression calculation of odd ratios were:

a prohibitive response to alcohol, smoking and peer questions,
b Females for gender,
c 17-18 years old for age.

* p < .05, ** p < .01, *** p < .001
Table 30 provides the results of the multinomial regression for the PA parent sample ($N = 210$). For the alcohol variable, tracking was negatively associated with PA reports that adolescents were ‘not allowed to drink alcohol but might do it anyway’ with a significant odds ratio of $OR = 0.41$, $p < .001$, 95%CI (0.28, 0.61), hence, responders were 59% less likely to report the same level of tracking as the reference group. Tracking was also negatively associated with ‘yes allowed to drink’ $OR = 0.69$, $p < .01$, 95%CI (0.52, 0.92). The change in the mean tracking scores across these three response categories is also of interest, being 9.90 for the defiant group, 11.56 for the permissive group, and 12.49 for the prohibited group. Age effects were evident for the response ‘yes, allowed to drink alcohol’ with this response significantly less likely to be reported among the 14 to 16-year-old age group, $OR = 0.22$, $p = .002$, 95%CI (0.09, 0.59), and also the 11 to 13-year-old group, $OR = 0.05$, $p < .001$, 95%CI (0.01, 0.20). These results generally mirror the results shown for the SR adolescent sample, with lower tracking associated with increased deviant behaviour.

For the smoking variable, among PA parents tracking was found to be negatively associated with reports that adolescents were ‘not allowed to smoke but might do it anyway’ with a significant odd ratio of $OR = 0.39$, $p < .001$, 95%CI (0.25, 0.62). Parents who were suspicious of deviant smoking behaviour also reported higher conflictual-relationship, $OR = 1.19$, $p = .005$, 95%CI (1.05, 1.33). Permissive parents, who reported their adolescent was ‘allowed to smoke,’ reported lower tracking, $OR = 0.55$, $p = .02$, 95%CI (0.33, 0.91), and higher conflictual-relationship, $OR = 1.19$, $p = .04$, 95%CI (1.01, 1.40). Higher solicitation was also associated with parental reports of permissiveness, $OR = 6.46$, $p < .01$, 95%CI (1.48, 28.22), however the broad confidence interval suggests that this finding should be considered cautiously.
For PA parents who reported they did not prohibit peer associations there was a positive association with tracking, OR = 1.32, $p = .024$, 95%CI (1.03, 1.69), and a negative association with conflictual-relationship, OR = 0.88, $p = .002$, 95%CI (0.82, 0.95). Thus, parents who reported no peer restrictions were 32% more likely to have higher tracking scores and 18% less likely to report conflictual-relationships than the prohibitive group. For the peer association variables there were no other significant and meaningful age or gender effects. Overall, the parent data was similar to the adolescent reports, with lower tracking corresponding with a significant increase in reporting of defiance in smoking and alcohol use. Of note are the significant associations between conflictual-relationship and the defiant behaviours present in the PA parent data that were not significant in the SR adolescent data set.
### Table 30

**Parameter Estimates for Multinomial Logistic Regression with PA Parent Responders.**

<table>
<thead>
<tr>
<th></th>
<th>Drinking Alcohol</th>
<th></th>
<th>Smoking</th>
<th></th>
<th>Peers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD) OR Sig. 95% CI</td>
<td>M (SD) OR Sig. 95% CI</td>
<td>M (SD) OR Sig. 95% CI</td>
<td>M (SD) OR Sig. 95% CI</td>
<td>M (SD) OR Sig. 95% CI</td>
</tr>
<tr>
<td><strong>Rule-setting</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permissive (Yes, allowed)</td>
<td>17.09 (2.35) 1.18 0.95 1.45</td>
<td>16.28 (2.85) 1.00 0.85 1.16</td>
<td>17.59 (2.13) 1.22 0.95 1.56</td>
<td>17.28 (1.49) 1.38 0.85 2.23</td>
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</tr>
<tr>
<td>Prohibitive (No, not allowed)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permissive (Yes, allowed)</td>
<td>9.90 (2.05) 0.41 *** 0.28 0.61</td>
<td>11.56 (1.63) 0.69 ** 0.52 0.92</td>
<td>9.66 (2.01) 0.39 *** 0.25 0.62</td>
<td>10.00 (1.52) 0.91 0.56 1.49</td>
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</tr>
<tr>
<td>Prohibitive (No, not allowed)</td>
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<td></td>
</tr>
<tr>
<td><strong>Tracking</strong></td>
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<td></td>
</tr>
<tr>
<td>Permissive (Yes, allowed)</td>
<td>9.93 (7.30) 1.00 0.91 1.11</td>
<td>5.17 (4.87) 0.95 0.87 1.03</td>
<td>11.96 (6.29) 1.19 ** 1.05 1.33</td>
<td>14.20 (8.92) 1.08 0.56 1.84</td>
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</tr>
<tr>
<td>Prohibitive (No, not allowed)</td>
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<td></td>
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</tr>
<tr>
<td>Permissive (Yes, allowed)</td>
<td>4.12 (0.78) 0.80 0.37 1.71</td>
<td>4.30 (0.71) 0.71 0.38 1.30</td>
<td>4.26 (0.76) 0.80 0.49 2.17</td>
<td>4.10 (0.72) 0.55 0.27 1.90</td>
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<tr>
<td>Permissive (Yes, allowed)</td>
<td>3.97 (0.77) 0.78 0.39 1.56</td>
<td>4.20 (0.76) 1.47 0.83 2.59</td>
<td>3.97 (0.77) 0.78 0.39 1.56</td>
<td>4.15 (0.72) 0.55 0.27 1.90</td>
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<tr>
<td>Prohibitive (No, not allowed)</td>
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</tr>
<tr>
<td>Permissive (Yes, allowed)</td>
<td>0.49 0.18 1.31</td>
<td>0.54 0.26 1.15</td>
<td>0.82 0.27 2.46</td>
<td>1.56 0.36 6.71</td>
<td></td>
</tr>
<tr>
<td>Prohibitive (No, not allowed)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Disclosure</strong></td>
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**Note:** Reference categories for multivariate logistic regression calculation of odd ratios were:

* prohibitive response to alcohol, smoking and peer questions,

b Females for gender,

c 17-18 years old for age.

\* \( p < .05 \), ** \( p < .01 \), *** \( p < .001 \)
This study found that parental monitoring was composed of rule-setting, disclosure, solicitation, and tracking. The monitoring constructs were adequately modelled into a linear sequence via statistical modelling. Using factor analysis, nine variables that are traditionally labelled as monitoring were found to form three factors. Rules Setting was the factor named to describe a cluster of pre free-time monitoring variables, and these included providing curfew times and keeping in contact with parents. Tracking was the factor named to describe a cluster of variables that measure if parents are actively engaged in the management and aware of their adolescent’s free-time behaviour. The label tracking was chosen because in this research tracking is thought to measure if parents are actively engaged in monitoring. This factor is seen as similar to parental knowledge; however, it was felt that tracking was a more appropriate label because the variables described not only parental knowledge, but also adolescent engagement in behaviours when they are aware that their parents do not approve. The factor analysis also revealed that parental questioning and adolescents disclosing to parents loaded differently for parents and adolescents, and therefore, rather than adopt this third factor, the variables were used separately. The two variables were solicitation, parents asking questions, and also disclosure, adolescents talking to parents about their free-time. The construction of this monitoring scale was found to have good psychometric properties.

Based on the theoretical importance of parent-adolescent relationship quality, a path model was constructed using a measure of conflictual-relationships and the above-mentioned monitoring constructs. This model was found to adequately fit the data using the full sample of parents and adolescents combined. This model showed support
for the hypothesis that conflictual-relationship, rule-setting, disclosure, and solicitation are significant predictors of tracking. However, examination using multi-group analysis revealed there were significant differences in the statistical relationships between constructs for the adolescent and parent samples. Attempts to apply similar paths to the two samples were unsuccessful, and the final accepted model showed different parameters for each group. Overall, there was partial support for the hypothesis that monitoring and conflictual-relationships constructs would be significantly related, in that tracking, disclosure, and solicitation were significantly correlated with conflictual-relationship; however, contrary to this hypothesis was the surprising finding that rule-setting and conflictual-relationship were uncorrelated in both the parent and adolescent samples. In addition, the relationship between solicitation, disclosure, and tracking differed for parents and adolescents. These findings for parents and adolescents will be discussed separately.

Among adolescents, the model showed that conflictual-relationship was related to tracking and disclosure, but not to solicitation or rule-setting. Specifically, when adolescents reported high conflictual-relationship levels, they were more likely to report that tracking behaviours were low, and disclosure to parents was also lower. Disclosure was also found to mediate the relationship between conflictual-relationship and tracking. Rule-setting was found to be related to solicitation and tracking, and indirectly to disclosure through solicitation. When adolescents reported higher rules, they were more likely to report higher tracking behaviours, were more likely to report that parents asked questions about their free-time, and were more willing to disclose about their activity. This pattern of relationships for adolescents is important; in this model it appears that adolescents are more likely to disclose when their parents ask them questions. There was no relationship between solicitation and tracking,
suggesting that for adolescents these two factors are independent. Overall the model for adolescents was able to account for 27% of the variance in tracking.

Among parents the statistical relationships differ. Conflictual-relationship was significantly related to disclosure, solicitation, and tracking. Therefore, when parents report that conflictual-relationship is high, they are also more likely to report that disclosure is low, solicitation is low, and tracking is low. It appears that to parents, conflictual-relationships has an important impact on their ability to ask questions of their adolescents, they also perceive that their adolescents are less inclined to talk with them about their free-time, and they monitor less of their adolescents free-time. Rule-setting was also found to be related to disclosure, solicitation, and tracking in the parent sample. When rule-setting was higher, parents were more likely to report that they asked more questions of their adolescents, their adolescents disclosed more, and their ability to monitor improved. That is, they perceived higher awareness of their adolescents free-time use. Of interest in the parent model is the non-significant relationships between disclosure and tracking, and also solicitation and tracking. This suggests that parents perceive that there is no relationship between communication and tracking behaviours, which include awareness of adolescent activity and also adolescent engagement in unapproved behaviours. As with the adolescent model, solicitation was found to have a direct statistical effect on disclosure, and attempts to change the causal direction did not improve the fit. Overall the model for parents was able to account for 34% of the variance in tracking.

The difference in the path model for parents and adolescents does not appear to be an artefact of the two sample cohorts. The 36 pairs of matched parent and adolescent data also revealed similar differences. There were significant differences in the means scores for adolescents and parents, with parents having higher scores on tracking than
their adolescents, increased disclosure, and increased solicitation. There was no significant difference in the mean scores on conflictual-relationship and rule-setting. As with the path model, there were significant correlations between rule-setting, tracking and conflictual-relationship among the pairs of parents and adolescents. However, solicitation and disclosure responses were unrelated. That is, even when parent and adolescent data are matched, their responses on communication questions are unlikely to correspond. These results from the matched data appear to mirror the results shown in the two larger samples.

The hypothesis that age and gender would significantly effect monitoring scores was only partially supported. The only monitoring construct that was related to gender was rule-setting, and this was only significant for the adolescent sample. This finding suggests that female adolescents perceive higher rule-setting than males, although the size of the effect was small. Gender differences were apparent amongst conflictual-relationships measures, with females reporting higher perceived conflictual-relationships in both parent and adolescent samples, but again, the size of the effect was small. A decline in rule-setting and tracking with increasing age was evident in mean scores, and also reflected in the reduced odds ratios amongst parent and adolescent data. Parent and adolescent samples were more likely to report higher rules for the 11 to 13-year-old group, when compared with the 17 to 18-year-old group. Also, the 14 to 16-year-old group were more likely to report higher rules than the 17 to 18-year-old group. A similar pattern was evident in tracking behaviour, with higher scores more likely amongst the 11 to 13-year-old group for both samples. Although, only parents perceived greater awareness amongst the 14 to 16-year-old group, with a non-significant relationship shown for the adolescent sample.
The hypothesis that tracking would significantly predict defiant behaviours was supported. Significant relationships were demonstrated between tracking and the measures of alcohol, smoking, and deviant peer associations.

Among adolescents, lower tracking scores predicted defiant responses. When adolescents responded defiantly that they were not allowed to drink alcohol but they do so anyway, they were 52% less likely to report high tracking scores. This defiant response to alcohol use was also more likely to be reported by males. A similar pattern was evident with smoking. When adolescents responded that they were not allowed to smoke but they did so anyway, they were 44% less likely to have the same tracking scores as adolescents who reported they were not allowed to smoke. For deviant peer associations, adolescents who responded that there were peers they were not allowed to associate with but they did so anyway were 45% less likely to have high tracking scores. This defiant response toward peer associations was also related to lower rule-setting.

Adolescents who reported permissive responses in relation to alcohol use were 13% less likely to have rules equal to those adolescent who were forbidden from drinking. If they were permitted to drink alcohol they were 60% more likely to report high disclosure, and were also more likely to be in the 17 to 18-year-old group. Adolescents who reported that they were not prohibited from associating with some peers were 33% less likely to report higher rule-setting scores.

Among adolescents, solicitation, disclosure and conflictual-relationship were not significant predictors of defiance or permissiveness in relation to the behaviours of smoking, alcohol, or deviant peers.

The importance of tracking was generally mirrored in the parent sample. Tracking significantly predicted the defiant response to alcohol use, with parents 59%
less likely to report high tracking scores when they reported that their adolescent was not allowed to drink but might do so anyway. Tracking predicted the defiant response to smoking, with parents 61% less likely to report high tracking scores when they perceived that their adolescents might smoke even though they were not allowed to. In these results, we can see that even though parents have forbidden certain behaviours, there is an awareness that their adolescents are likely to engage in them anyway, and these parents report lower awareness of their adolescents free-time use.

Among parents, the permissive response was a significant predictor of lower tracking in relation to alcohol use. Where parents reported that their adolescent was allowed to drink alcohol, they were 31% less likely to report high tracking scores. However, there were also significant age effects with parents of older adolescent more likely to report giving permission to adolescents to drink alcohol. Parents who reported that they placed no restrictions on whom their adolescent associated with were 12% less likely to report high conflictual-relationship, and more likely to report higher tracking. However, the interpretation of the permissive response in relation to deviant peer associations is somewhat problematic as the result may be confounded by parental interpretation. That is, some parents are likely to have adolescents who have no history of problem behaviour or deviant peers, and they might report that they did not forbid any associations because it was not relevant.

The definition of monitoring provided by Dishion and McMahon (1998) is that monitoring is parental awareness and communication to the child that the parent is concerned and aware of their activity. This study has shown that by using this definition, separate constructs can be developed that operationalise this definition. Having clear rules, talking with adolescents, and listening to them, correspond with increased parental tracking and knowledge of free-time, and this pattern was similar for
parents and adolescents. However, when families have conflictual-relationships, talking and listening are decreased, and parental tracking and knowledge of free time reduces.

Limitations and Conclusions

Path modelling was used to determine if the data would fit the hypothesised model of parental monitoring constructs, and, as with all data modelling an alternative model is always plausible. With path modelling the risk is that there are additional variables that have been omitted from the model. In addition, this study used a single measure of self-report data from parents and adolescents, and to fully understand the evolution of monitoring longitudinal measures are required.

The Internet based data collection method used in this study was unique. There were no apparent differences between participants who completed the measures in schools and participants who were recruited via newsletters. However, there may be some unmeasured attributes that would motivate participants to self-select for this type of study. The range of scores suggests that there were families at both extremes who volunteered. For example as part of the Internet design, participants were provided with an email address in which they could ask questions of the researcher, and a number of email requests were received from parent participants seeking assistance because they were having difficulty with their adolescent. The major shortcoming of using the Internet to collect data in this study was a limited capacity to promote the site, something that financial assistance or sponsorship may have overcome.

The goal of this study was to test whether monitoring behaviours could be measured separately, and then modelled into a predictive sequence. The final model provided support for the theoretical process-monitoring model in that conflictual-relationships, rules, solicitation, and disclosure predicted parental awareness and ability
to keep track of adolescent free-time activity. Poor parental tracking was the most important predictor of adolescent defiance, over and above conflictual-relationships and rule-setting. However, parents and adolescents appear to differ in the predictive capacity of each construct, particularly with regard to communication. These results suggest that the quality of the relationship is likely to be the greatest contributor to parental monitoring. Future experimental research that attempts to improve parent-adolescent interactions may provide a greater understanding of how to effect change in parental monitoring.
CHAPTER 7 - STUDY 4: EXPLORATORY COMPARISONS BETWEEN PARENTAL MONITORING MEASURES AND FAMILY OBSERVATIONS USING TWO CASE STUDIES

Rationale

The literature review (Chapter 2) and Studies 2 and 3 in this thesis have demonstrated that in large samples lower rates of parental monitoring, as reported by parents and adolescents, is associated with increased problem behaviours in adolescents. As a consequence, family interventions have increasingly included parental monitoring as a component. The advice generally given to parents is that they must increase monitoring, usually by asking more questions about their adolescent’s activities. While this makes intuitive sense, few experimental studies have evaluated interventions that may assist parents to improve monitoring. The exception is the recent treatment work published by Dishion et al. (2003). To date there are few studies that reveal whether increasing monitoring is likely to curtail the activities of an adolescent who is already on a deviant path.

The study described in this chapter is exploratory in design, and presents an in-depth comparative analysis of monitoring in two families undergoing treatment for parent-adolescent conflict. The study had two aims. The first aim was to compare monitoring and conflictual-relationship scores using the same measures from Study 3, with interviewer impressions of monitoring interactions that were observed during clinical sessions. The second aim was to examine if an intervention that was targeted to reduce conflict and improve communication would have any influence on monitoring
interactions. Rather than target monitoring directly, this study aimed to examine if changes to monitoring might occur when parent-adolescent relationships improve, as the relationship has been shown to be critical to good monitoring.

It was hypothesised that by improving the interactions between parent-adolescent dyads monitoring interactions might also improve. To test this Problem Solving and Communication Training (PSCT, Robin & Foster, 1989) was conducted with two families. Robin and Foster’s (1989) program is a behavioural family systems approach to the treatment of parent-adolescent conflict that has been widely used and evaluated in the treatment of family conflict and the resolution of daily interactional problems. The present intervention was conducted in the family homes over a six week period. In this study, the communication and problem solving tasks used with families did not target monitoring exchanges, instead general conflict issues nominated by the families were worked on in therapeutic session, and monitoring was merely observed over the time. It was anticipated that this exploratory study might reveal insights for future experimental research with monitoring measures and monitoring interventions.

**Method**

*Participants and Settings*

Participants were two families with teenage children. The families had previously participated in Study 3, where they were recruited from a suburban secondary school. The two families self-referred for this study by indicating that they would like to participate in a further home-based intervention program. The socio-demographic characteristics of each family were similar, with single divorced mothers heading both families. They resided in the same low socio-economic suburb in a large
Australian city. Neither of the mothers had completed high school, and they both had part-time employment. Pseudonyms have been substituted for participants’ names.

**Family 1**

Carol was a divorced mother with two boys, Robert who was 17 years of age, and Michael who was 13 years of age. Carol was seeking assistance with her youngest boy Michael, because she believed Michael was difficult to manage, she reported that they had been fighting frequently, and also Carol was concerned about Michael’s peer group. Carol indicated that being a single parent was difficult, and she was worried Michael was getting out of control. Carol claimed that Michael had been sneaking out of home in the evening, and on one occasion she got of bed in the evening and found he was not in the house. Carol suspected Michael had been smoking and drinking alcohol, but she was unable to substantiate this, and Michael vehemently denied it.

Michael was a tall and heavily built boy, with chronic asthma and he occasionally wet the bed. Michael was experiencing difficulty in school. His school reports described him as disruptive and difficult, and he had been repeatedly suspended from school in the past year. Michael’s schoolwork was below the standard expected for his age. Michael had a large group of friends, and spending time with them was his priority. Some of Michael’s friends were 18 years of age, and Michael acknowledged that they smoked and drank alcohol. During the intervention sessions Michael was cooperative, polite, and spoke quietly. Michael’s brother Robert was not present during the sessions.

**Family 2**

Sally was a recently separated mother of six children, and her seventh child was due in four months. Sally’s eldest child was 15 years of age, and her youngest was 3 years of age. Sally’s family history was one of extreme violence. There had been a
homicide in her family when she was 21-years-old. Her former husband was violent, and Sally had recently taken out an intervention order to prevent him from contacting her. Sally was seeking help with all of her children through a variety of agencies, however, for this study the therapist worked with Sally and her daughter Bridget (the second eldest child), who was 13 years of age. Sally described Bridget as uncooperative, argumentative, and lazy. Sally reported that Bridget swore constantly, that she bullied her younger brothers and sisters, and that she would not do anything Sally requested.

Bridget was well developed for her age, and liked to wear the latest fashionable clothing, makeup, and nail polish. Bridget was in her first year of secondary school and was managing well at school, although she claimed she hated it. She was reluctant to co-operate within the sessions, but agreed to participate if it would get her mother ‘off her back’. Bridget spoke very loudly, and yelled frequently. She was also very critical, and used sarcasm or caustic jokes to upset her mother and also to bully her younger siblings. Bridget had female friends her age; however, she rarely had friends over to her house, preferring to go to the shopping mall with them.

Procedure

Ethical approval to conduct research was obtained from the RMIT University Human Research Ethics Committee (see Appendix N for consent forms and plain language statement). The families participated in Robin and Foster’s Problem Solving and Communication Training. These sessions were conducted in accordance with the program set out in the treatment manual, *Negotiating parent-adolescent conflict: A behavioral-family systems approach* (Robin & Foster, 1989). The program comprised six weekly home visits. The first session was primarily assessment, rapport building,
and establishing goals for treatment. This was followed by four sessions of problem solving and communication training, targeted according to the goals and needs of the families. Participants completed the pre-intervention measures during the first session, and post-intervention measures in the final session. The final session was also used for providing feedback, and sourcing ongoing treatment, which was recommended for both families.

Interviewer impressions of monitoring were used in this study to explore monitoring interactions. This was founded on the knowledge gleaned from the importance of family observations, as discussed in the OYS (Patterson et al., 1992) where the most important indicator of monitoring was the interviewer impression. To analyse monitoring interactions observed in sessions, the sessions were audio taped and later transcribed. Because the aim of this study was to explore monitoring events in greater detail, whenever monitoring topics were raised the therapist used minimal encouragers to explore the sequence of events. For example, ‘and then what happened?’ or ‘and then what did you do?’

Materials

The measures used were the Conflict Behaviour Questionnaire (CBQ-20, Prinz et al., 1979; Prinz & Miller, 1996), the Issues Checklist (Robin & Foster, 1989), the monitoring questionnaire developed in Study 3, the 3-item measure of defiant behaviours also used in the previous study, and a daily record of conflict and pleasant events. All items were completed at session one (pre-intervention) and session six (post-intervention), with the exception of the daily record of conflict.

As detailed in the previous study, the CBQ-20 (Prinz et al., 1979; Prinz & Miller, 1996) is a 20-item measure of perceived communication-conflict behaviour
between parents and adolescents, and provides an estimate of the level of negative
dehaviour perceived by the dyad. The mothers and their adolescents completed parallel
versions of the questionnaire, and were required to rate their interactions over the past
two weeks.

The Issues Checklist (Robin & Foster, 1989) consists of 44 items that may lead
to disagreements between parent-adolescent dyads (see Appendix O). This scale
measures the number of issues that are creating conflict and also the intensity of
disputes. The mothers and their adolescents completed parallel versions of the scale.
The scale was modified slightly into a two-week time frame (the original scale is four
weeks). The participants were instructed to indicate if each of the 44 topics had been an
issue for the dyad in the past two-weeks, and then rate the intensity of their discussions
on each topic. The anger-intensity rating is a 5-point scale ranging from 1-*calm* to 5-*angry*.
Two scores were obtained for each participant. The first is the Quantity scale,
which is calculated by summing the number of items that were an issue over the past
two-weeks. The second sub-scale is the Anger-Intensity scale, which was calculated by
summing the ratings of anger-intensity on all items, and then calculating an average.
The Issues Checklist has a third scale, weighted average of frequency and intensity,
however this was not used in the present study. Test-retest reliability for the Issues
Checklist, with non-distressed mother-adolescent samples over a 1-2 week period, on
the Quantity scale range from .49 (adolescents) to .70 (mothers), and on the Anger-
Intensity scale the range is .47 (adolescents) to .63 (mothers). Test-retest reliability
estimates for distressed mother-adolescent samples over a 6-8 week period on the
Quantity scale range from .49 for adolescents to .65 for mothers, and on the Anger-
Intensity scale the range from .37 for adolescents to .81 for mothers (Robin & Foster,
1989).
The monitoring questionnaire used was the 9-item scale devised in Study 3 (included in Appendix E). Each item was scored using a 5-point Likert scale ranging from 1-never, through to 5-always. Parents and adolescents completed parallel versions of the scale, and were required to rate monitoring interactions over the preceding two weeks. The questions were summed to create scores on Rule-Setting, tracking, disclosure, and solicitation.

The 3-item measure of adolescent defiant behaviours used in the previous study was also included to assess adolescent defiance (see Appendix E). The items asked adolescents and parents to report if they were (a) allowed to smoke cigarettes, (b) allowed to drink alcohol, (c) if there were kids they were not allowed to ‘hang’ around with. Items were scored using a 3 point scale were; 1 = yes, 2 = no, and 3 = no, but I do it anyway.

A daily record of conflict and pleasant events was constructed for completion by the parent of each dyad (see Appendix P). Both mothers were asked to keep the scale in a prominent place and record a circle on the form each time there was a conflict with their adolescents (labelled unpleasant interactions on the form). They were also instructed to place a tick on the form each time there was a pleasant activity or shared positive experience with their adolescent.

Research Design and Data Analysis

This research used a simple AB single subjects design. Pre and post scale scores were compared to normative data, and also for changes over the course of the program. Observational data from session transcripts were analysed to explore the interactive sequence of monitoring events between the parent-adolescent dyad. In this way the therapist was able to determine how well the adolescent was monitored.
Results

Changes to Family Interactions

The pre and post scores on the Issues Checklist and CBQ-20 are shown in Table 31 for Family 1, and Table 32 for Family 2, along with the normative scores as reported by Robin and Foster (1989). Over the course of the program, each mother was asked to keep a daily tally of the number of conflicts and pleasant events that occurred between her and her adolescent. These ratings of pleasant and conflict events are also discussed below, and changes in monitoring will be discussed in the following section.

Family 1

For Family 1, scores on the pre-intervention measures reveal that Carol reported a very high CBQ score of 15, compared to the mean score for distressed families of 12.4. She also reported a high score of 28 on the Issues Checklist Quantity scale, compared with a norm for distressed families of 22.5; and the IC Anger-Intensity score was also higher at 3.86 compared with a norm for distressed families of 2.42. At post-intervention the CBQ-20 score and Anger-Intensity score had reduced by more than one standard deviation, however the number of problem issues on the IC Quantity had risen to 30. In contrast, her son’s reports at the pre-intervention measure on the CBQ-20, IC Quantity, and IC Anger-Intensity were only moderately elevated. Over the six-week intervention period Michael’s scores on IC Quantity decreased, but this was less than one standard deviation on the normative scores, and there was no apparent change in CBQ-20 or IC Anger-Intensity.
Table 31

*Pre and Post-intervention Scores on Conflict and Relationship for Family 1*

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<td>Non-Distressed Norm</td>
<td>17.8 (7.0)</td>
<td>18.5 (7.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IC Anger-Intensity – Score</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family 1</td>
<td>3.86</td>
<td>2.83</td>
<td>2.56</td>
<td>2.81</td>
</tr>
<tr>
<td>Distressed Norm</td>
<td>2.42 (0.5)</td>
<td>2.34 (0.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Distressed Norm</td>
<td>1.70 (0.5)</td>
<td>1.77 (0.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CBQ</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family 1</td>
<td>15</td>
<td>10</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Distressed Norm</td>
<td>12.4 (5.0)</td>
<td>8.4 (6.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Distressed Norm</td>
<td>2.4 (2.8)</td>
<td>2.0 (3.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study 3</td>
<td>5.9 (5.4)</td>
<td>6.4 (5.8)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Normative data from (Robin & Foster, 1989)
Study 3 - refers to mean scores on this scale found in Study 3

Parent ratings of conflict and pleasant activity for Family 1 revealed positive changes in their daily interactions. Figure 10 shows the number of daily conflicts that were recorded by Carol for 28 days. There appeared to be a trend of reducing conflicts
over the treatment period. However, at day 25, Michael was suspended from school and the dyad was again showing some distress. Michael’s ongoing problems with school were recognised as a critical issue for this family to address, and following this program Michael was referred for an education assessment with the school psychologist. Figure 10 shows the number of pleasant activities the dyad engaged in over the treatment period. Again, there appears to be an increasing number of pleasant interactions, and verbal reports from Carol and Michael confirm that they were attempting to spend some time each day engaging in shared activities.
Figure 10. Daily conflicts and pleasant activities for Family 1
**Family 2**

For Family 2 the pre and post measures are shown in Table 32. On the pre-intervention measures Sally reported a high CBQ-20 score of 14, compared to the mean score for distressed families of 12.4. She also reported a high score of 22 on the Issues Checklist Quantity scale, which was equivalent to the norm for distressed families of 22.5, and the IC Anger-Intensity score was also higher at 3.13 compared with a norm for distressed families of 2.42. For Sally, the post-intervention score on the CBQ-20 had reduced by more than one standard deviation, to a score of 6, and the number of issues on the IC Quantity score had also reduced to 16, however, the IC Anger-Intensity score had increased to 4.25. Inspection of these score on the IC Anger-Intensity post-intervention scale, revealed that Sally rated an anger level of 5 on most items selected, even though there were fewer problem issues. As shown in Table 32, Bridget’s reports at the pre-intervention measure on the CBQ-20, IC Quantity, and IC Anger-Intensity were all elevated above the level of the distressed norm. At the post-intervention measure the IC-Quantity and CBQ-20 score were reduced by more than one standard deviation, but the intensity of items on the IC Anger-Intensity scale remained high, in concordance with her mother’s high ratings on this sub-scale.
Table 32

*Pre and Post-intervention Scores on Conflict and Relationship for Family 2*

<table>
<thead>
<tr>
<th></th>
<th>M (SD) Mother Pre</th>
<th>M Mother Post</th>
<th>M (SD) Adolescent Pre</th>
<th>M Adolescent Post</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IC Quantity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family 2</td>
<td>22</td>
<td>16</td>
<td>32</td>
<td>9</td>
</tr>
<tr>
<td>Distressed Norm</td>
<td>22.5 (7.4)</td>
<td>20.7 (7.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Distressed Norm</td>
<td>17.8 (7.0)</td>
<td>18.5 (7.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IC Anger-Intensity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family 2</td>
<td>3.13</td>
<td>4.25</td>
<td>2.37</td>
<td>2.55</td>
</tr>
<tr>
<td>Distressed Norm</td>
<td>2.42 (0.5)</td>
<td>2.34 (0.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Distressed Norm</td>
<td>1.70 (0.5)</td>
<td>1.77 (0.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CBQ</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family 2</td>
<td>14</td>
<td>6</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Distressed Norm</td>
<td>12.4 (5.0)</td>
<td>8.4 (6.0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Distressed Norm</td>
<td>2.4 (2.8)</td>
<td>2.0 (3.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study 3</td>
<td>5.9 (5.4)</td>
<td>6.4 (5.8)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Normative data from (Robin & Foster, 1989)*  
Study 3 - refers to mean scores on this scale found in Study 3

To interpret the ratings of conflict and unpleasant activity for Family 2, it is necessary to explain the chaotic environment of this family. All family members interacted aversively, with yelling, name-calling, and criticism typical. During sessions the non-participating children would watch television in the adjoining room, and there
was constant bickering and fighting between siblings. The fighting would frequently extend to physical violence between siblings. Sally responded to this fighting by yelling at the children, although this generally was ineffective. Throughout the sessions, Sally and her daughter Bridget would yell at each other, criticise each other, and call each other names. They needed to be constantly brought back to the task at hand.

Despite Sally’s weekly assurances that she would try to record daily conflicts and pleasant activities with Bridget no baseline records were kept, and on subsequent weekly visits Sally would have recorded only one rating for each day. It appeared that the interactions in this family were very dysfunctional, and that Sally could only rate the day as good or bad. Throughout the weekly sessions interviewer observations revealed that Sally rarely positively reinforced her children, although Sally and Bridget did laugh frequently in session. Figure 11 shows the number of days each week that Sally’s rated as conflictual (unpleasant fighting with Bridget), pleasant, or neutral. There is little noticeable change over the treatment period, with two or three days each week rated as conflictual days. Weekly attempts to encourage Sally to engage in pleasant activities with Bridget achieved only minimal success. Problem-solving tasks could be completed and adequate solutions were agreed upon in session, and on occasions these were positively reported on in the following week session.

The level of dysfunction and communication difficulties in this family required ongoing intensive treatment, over and above the brief intervention offered in this study. It was recommended that Sally seek ongoing treatment for her own well-being. Sally was also referred to the local Child and Adolescent Mental Health Service for ongoing treatment for the children.
Analysis of Monitoring Sub-scale Scores and Interviewer Impressions of Monitoring

The primary goal of this study was to look in-depth at the monitoring interactions of these two families. The monitoring scores that were reported at pre and post-intervention are shown below in Table 33 for each family. There was little change in any of the scores over the six-week intervention period. For each family, comparisons of the changes to monitoring scale scores, and a qualitative analysis of the interviewer impressions of monitoring interactions follow.
Table 33

*Pre and Post-intervention Scores on Monitoring Scales for Family 1 and 2*

<table>
<thead>
<tr>
<th></th>
<th>Mother Pre</th>
<th>Mother Post</th>
<th>Adolescent Pre</th>
<th>Adolescent Post</th>
<th>Parent (n = 46)</th>
<th>Adolescent (n = 26)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule-setting</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
<td>17.82 (2.35)</td>
<td>16.42 (3.17)</td>
</tr>
<tr>
<td>Tracking</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>10</td>
<td>12.34 (1.65)</td>
<td>11.76 (2.00)</td>
</tr>
<tr>
<td>Disclosure</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>4.30 (0.73)</td>
<td>3.42 (1.17)</td>
</tr>
<tr>
<td>Solicitation</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>4.24 (0.85)</td>
<td>3.31 (0.97)</td>
</tr>
<tr>
<td><strong>Family 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule-setting</td>
<td>16</td>
<td>16</td>
<td>18</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tracking</td>
<td>15</td>
<td>13</td>
<td>11</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disclosure</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<td></td>
</tr>
<tr>
<td>Solicitation</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Family 1*

The interviewer impression was that parental monitoring of this adolescent was very poor. Although Carol attempted to establish rules, Michael was only sometimes abiding by them, and his defiant behaviour was escalating. While Carol had some suspicions, she knew little about her son’s free-time behaviour. The qualitative descriptions of interviewer impressions compared to the monitoring scale scores follows.

Pre free-time monitoring interactions for his family were the source of considerable conflict, although the rule-setting scores were within one standard deviation of the mean score for 11 to 13-year-old adolescents in Study 3. Carol explained that she was very concerned that Michael was getting out of control, and she
was responding to this by trying to restrict his activities, often unsuccessfully or inconsistently. For example, Michael would plan activities with his friends, but would only ask permission to go out just before he needed to go. He confessed two reasons for leaving it to the last minute to ask permission. Firstly, he did not want Carol to telephone the parents of his friends to see if the prospective party or video night would be supervised. And second, Carol regularly grounded Michael as a punishment for misconduct at school. Michael reported that if his mother knew on Monday that he wanted to go to a party on Friday she might forbid him from going if he misbehaved during the week. By asking permission at the last minute this was avoided. Carol displayed considerable instability in her rule and limit setting. She explained that Michael often frustrated her by asking permission to go out at the last minute, and then he would badger her until he got his answer. Often his friends were waiting outside the house. Carol explained that in frustration she would give up and tell him to get out of her sight.

The tracking scores reported by Carol and Michael were more than one standard deviation below the scores shown in Study 3 for the 11 to 13-year-old age group. For Michael, the low scores are reflective of his secretiveness and deception about his free-time activities. Carol confidentially reported to the therapist that she suspected Michael was misbehaving, smoking, drinking alcohol, and lying to her. This was confirmed in Michael’s pre and post questionnaire responses on defiant behaviour, where he self-reported smoking and drinking behaviours.

Michael’s free-time behaviour was characterized by acting out behaviours. During a recent event Michael told his mother he was going out for five-minutes and he returned home several hours later. In another incident Michael was caught walking the streets with friends at 4am. At Michael’s 13th birthday party Carol found alcohol and
several of his friends were drunk. During the sessions, Michael acknowledged that he had been smoking cigarettes, despite his chronic asthma. Michael also acknowledged one of his friends had been chroming (sniffing aerosol cans). Michael insisted to his mother that he did not drink alcohol, and was not involved in any of the problem behaviours Carol had seen in his friends.

The solicitation and disclosure scores revealed little about the family interactions. When Michael returned home from his activities he disclosed only brief details of his free-time behaviour. Michael usually reported to Carol that he had been at a friend’s house watching videos or playing pool. Solicitation of activity by Carol was inconsistent. In many cases she asked minimal questions, and it was only when Michael returned home late that Carol would question him, yell at him, and then demand to know where he had been.

For Carol, the typical parental response to monitoring information was to yell, lecture, and then not talk to Michael for a long period. Carol regularly grounded Michael for his misbehaviour, although she would often lessen the punishment as the days wore on. Michael was not as verbally articulate as his mother, and would generally swear at her, and then sulk. Michael’s repeated episodes of sneaking out or not returning home had resulted in Carol attempting to place tighter restrictions on his free-time. This was proving to be unsuccessful, and the dyad was in constant conflict over these issues.

*Family 2*

The interviewer impression was that parental monitoring in this family was at best only moderate, with the expectation that monitoring is likely to decline over time. Sally was aware of her adolescent’s activities, but often only after the event, and the rules that were set to manage behaviour were regularly ignored. Conflict and coercion
were high. The qualitative description of the monitoring behaviours that follows compares the interviewer impression with the monitoring scale scores.

For Sally and her daughter Bridget, pre free-time monitoring behaviours, as measured by rule-setting, were within one standard deviation of the scores found for the 11 to 13-year-old group in Study 3, but they were slightly higher than the average. Sally reported that she always knew where her kids were. According to Sally, Bridget spent much of her time at home, and when she did go out her mother would usually drive her. There were occasions when Bridget would come home later than the agreed upon time, but this was infrequent, and occurred only once in the six week intervention period.

The tracking scores reported by this dyad were also high, as were the disclosure and solicitations scores reported by Bridget. Nevertheless, in session it appeared that there were emerging problems with regard to managing Bridget’s free-time behaviour that were not revealed in the scale scores. At this stage Bridget continued to reveal her free-time behaviour to her mother, and therefore Sally’s high tracking scores were accurate. However, Sally would often only find out about the free-time behaviour after the event had occurred.

For example, in one session it was reported that Bridget went to the shopping mall and had her naval pierced, despite direct instructions from Sally that she was not allowed to do this until she was 16 years of age. When Bridget returned home she told her mother what she had done. Sally’s response to this disclosed information was to get very angry, yell at her, and then ground Bridget for two-weeks, but, Sally also reported that she thought she “might as well” let her daughter leave the naval ring in. Sally then went on to explain that if she told Bridget to take the piercing out she would be “on my
back every single day”. Bridget’s responded to the punishment by stating that she
didn’t really care as long as she got to keep the piercing.

For this dyad, the above example of a monitoring interaction was typical of
their interaction patterns. Sally would provide firm rules and Bridget would break
them, and then disclose to her mother that she had broken the rules. In this way Sally
did know a lot about her daughter’s behaviour when she was not at home, but usually
only after the event. Although Sally did not approve of her daughter’s behaviour, she
reported feeling powerless in her efforts to manage Bridget, and that Bridget was
becoming increasingly more difficult and defiant.

Discussion

Although only exploratory in design, the results of this study revealed that there
is a level of correspondence between parent and adolescent reports on the monitoring
scales and the behaviour observed in monitoring interactions. However, the measures
seem to assess only severe dysfunction, and are too narrow to highlight emerging
dysfunction. The interviewer impression and analysis of monitoring interactions
provides additional information that is not apparent in the self-report measures.

For the tracking scale, the scores for Family 1 were more than one standard
deviation below the mean for this age group (using the mean score from Study 3 for the
11 to 13-year-old group), and the family reported secretiveness and problem behaviour
in the adolescent’s free-time activities. For Family 2, the tracking scores reported were
higher than the same age mean score, and although the mother was aware of her
daughter’s activities, this awareness was often obtained after the free-time activity.
Importantly, the tracking scores did not reveal that parental awareness was only acquired after the event. In Family 2 the adolescent had considerable power and decision-making rights, over and above her mother’s present capacity to manage. It is expected that over time the problem behaviours of the adolescent in Family 2 will escalate, and the mother will continue to have little power to influence her daughter. This emerging information was not evident in the self-report monitoring scale scores.

For the rule-setting measure, Family 1 reported scores that were within the mean range, although the mother’s score was slightly elevated. This score appeared to reflect the increased rule-setting that was being used in an attempt to control the son’s free-time behaviour. Rule-setting for Family 2 was also within the mean range for this age group, and matched observations of rule-setting seen within the dyad. In Family 2 the consequences for rule-breaking were ineffective.

Although results of this exploratory study were limited by the A-B design, the stability in the monitoring scale scores suggests that measures of monitoring are likely to be reasonable approximations of the ongoing monitoring interactions, with the qualification that only severe monitoring problems will be evident. Over the course of the six-week intervention the tracking and rule-setting scores remained stable. For both families, the single variables that measured disclosure and solicitation were unable to reveal any useful information about the interactions in these families. This was most likely a product of the restricted range of scores from the single items.

The intervention used in this study was Problem Solving and Communication Training (Robin & Foster, 1989) for families in conflict. For both families, the pre-intervention measures revealed that conflict was a significant issue, and this was creating distress in both families. For Family 1, there was a noticeable reduction in conflict between mother and son, and an increase in pleasant activities was evident.
The self-report measures revealed a reduction in conflictual-relationships measured with the CBQ of more than one standard deviation for the mother, and lower intensity scores on the IC Anger-Intensity measure. However, for Family 1, the improvement in mother-son interactions is tenuous, and ongoing problems with school need continuing attention.

The intervention did not appear to have a significant impact on the interactions for Family 2. There were improvements in daily conflict between this mother-daughter dyad, as evidenced by the self-report scores on the Issues Checklist for Quantity and the Conflict Behaviour Questionnaire; however, the level of IC Anger-Intensity remained high for the parent and adolescent. More telling was the daily interaction measure, which revealed that Sally found it very difficult to interact with her daughter positively. All sessions were difficult with this family, with a notable absence of positive reinforcement, and a level of aggression and coercion that required more intensive family based treatment.

The final aim of this study was to explore if an intervention for reducing conflictual-relationships would have an impact on monitoring interactions in families. Although the study was with two families only, there was no indication that improving the interactions between parent-adolescent dyads would result in changes to the monitoring interactions, at least in the short term. With both these families the monitoring interactions did not appear to change, despite reductions in conflict and improved communication. The adolescent from Family 1 was engaged in problem behaviours, and improving the communication with his mother did not change this. For Family 2, the adolescent was not engaged in regular unsupervised problem behaviour, and Sally was made aware of most activities through her daughters post free-time disclosure. With Family 2, the adolescent was very coercive and there was a suggestion
that Sally would increasingly be unable to manage the free-time activities of her daughter. Although limited, results these results suggest that in order to change monitoring interactions, monitoring behaviours must be directly targeted.

**Limitations and Conclusion**

This study was exploratory only, and as such the results cannot be generalised from the two families who participated. A longer-term follow-up would have been beneficial; however, due to the ongoing treatment needs of the families, and time restrictions this was not possible. At the end of the intervention both families were scheduled to begin additional treatment programs, and this would confound follow-up measures. For Family 2, the daily recording of pleasant and conflictual events was problematic, and Sally was unwilling to record the data as required, resulting in a necessary modification of the measure.

In summary, this study found some preliminary evidence that poor monitoring scores, as reported by parents and adolescents in the self-report measures, are likely to correspond with distress in monitoring interactions at the severe level. Interviewer impressions were a valuable tool for understanding monitoring interactions, particularly for the family where problems were only beginning to emerge and the measures were unable to determine this. The monitoring scale scores appeared to remain stable over time. For one family, the improvements to communication and problem solving and reduction in conflict did not change the monitoring difficulties. For the second family, emerging monitoring problems were implied from treatment sessions, and there was little improvement in the interactions of mother and daughter as a result of the PSCT intervention. It appears that future interventions to change monitoring interactions must work directly on the rule-setting and tracking behaviours.
CHAPTER 8 - GENERAL DISCUSSION

The discussion section of this thesis begins with a summary of the results from each study. In Study 1, a qualitative analysis of adolescent perceptions of monitoring was conducted. Study 2 involved analysing data from a population based survey. In Study 3 a questionnaire was developed to measure variables that might comprise monitoring behaviours, and this was used to test the theoretical process-monitoring model. Finally, Study 4 was an exploratory case study of two families experiencing high distress. Following this summary, the discussion will examine the findings of these studies in relation to the issues raised in the literature review.

Firstly, in the literature review it was highlighted that the definition and methods for measuring monitoring lacked clarity, and the discussion in this chapter will focus on how the results from this series of studies might inform and clarify the existing definitions of monitoring. Secondly, the present results will be compared with the methodological issues that were previously highlighted in the literature review. Thirdly, the results from these studies will be compared with the literature on monitoring and problem behaviour, adolescent development, and parent-adolescent relationships. Fourth, the debate over the direction of effects will then be addressed, and support for the notion that monitoring is a broad multi-dimensional process will be provided. Fifth, will be an examination of the present results in comparison with the theoretical issues that relate to monitoring, and the ongoing development of a theoretical process-monitoring model. Finally, a discussion of the implications this thesis has for future research and intervention work will be made.
Summary of Results

Study 1, a qualitative study, found that there was some correspondence between the constructs in the process-monitoring model and adolescent perceptions of monitoring interactions. Adolescent dialogue describing monitoring interactions included distinct pre free-time and post free-time behaviours, as depicted in the process-monitoring model. Two new themes that emerged in this study were parental trust and adolescent deceit. For typically developing adolescents there were marked differences in how adolescents perceived parental monitoring across the adolescent age groups. Results from this qualitative study revealed the following age interpretations were necessary.

For the adolescents at approximately 12 years of age, free-time activity continued to be childlike, and mostly included playing with friends. In general this age group perceived little independence or autonomy. They reported greater parental control than the older age groups, and they reported that parents comprehensively questioned them before they were given permission to go out unsupervised. Amongst this age group, clear rules were evident, with a focus on curfews and safety. Post free-time monitoring consisted of parent initiated questioning, and adolescent disclosure was readily reported in response to this.

In marked contrast, the activities reported by the 14-year-old group revealed their aspiring independence. They reported more free-time away from adult supervision; and, emerging teen behaviours such as shopping, movies, and going to skate parks were evident. For this age group, pre-free monitoring, which refers to parents asking questions about where they are going and what they plan to do, was
perceived negatively, as something the adolescents were obliged to submit to. Privacy was a key issue for the 14-year-old group. When this age group of adolescents return home from activities they reported that their post free-time disclosure was limited to factual information, such as where they went and whom they were with. Adolescents in this age group tended to report that they omitted information when talking to parents, often due to perceived concerns that parents might respond by restricting their future activities. Removal of privileges was the most frequently cited parental disciplinary response, and this age group reported that they responded to parental discipline by arguing and acting aversively.

By the age of 16 years, the free-time activities reported by the adolescents included parties, dating, and hanging out. This age group perceived and expected greater independence and autonomy from parents, but they still perceived that parents expected them to comply with curfew times and parental limits on where they were going and whom they could be with. The curfew times reported in this age group had extended to 11 or 12 pm. When this age group return home, post free-time monitoring continued to include disclosure to parents, and like the 14-year-old group, they reporting giving parents prescribed information, such as whom they were with. Some parental questioning was viewed as necessary, but too many questions from parents was viewed by the adolescents as prying or reflective of low parental trust. This age group reported that trust, deceit, and decision-making were also important factors in their monitoring interactions. Some adolescents in this age group reported that parents responded positively to their free-time disclosure, while other adolescents reported yelling and lecturing. In this age group there was recognition by the adolescents that past monitoring episodes were likely to impact on their future independence.
In Study 2, monitoring variables from a population-based survey with predominantly 14 and 15-year-olds were examined in a linear sequence by using structured equation modelling. This was an initial test of the process-monitoring model. An adequate model was constructed using three factors, rules, supervision, and conflict. It was proposed that these three factors are contributors to monitoring interactions. This study found that there were significant relationships between parental rule-setting, family conflict, supervision (the label used to describe parental observations and checking variables), and adolescent problem behaviours. These three factors were found to account for 40% of the variance in adolescent problem behaviour, which was measured through early problem behaviour, rebelliousness, and sensation seeking. Overall, the model demonstrated that when adolescents reported higher rule-setting, they were more likely to report lower conflict, increased supervision, and were less likely to engage in problem behaviours. Finally, with the exception of a stronger negative relationship between rules and conflict for girls, the model found no significant gender differences in the monitoring and conflict constructs.

Study 3 was a further test of the appropriateness of the theoretical assumptions in the process-monitoring model. Self-report data from parents and adolescents were used to model monitoring variables into a linear sequence using path analysis. Variables that were purported to measure parental monitoring were found to differentiate into three monitoring factors. The rule-setting and tracking factors were an adequate fit for both the parent and adolescent data. The third factor was found to load differently for the parent and adolescent data, and therefore, the two variables in this factor were retained as separate variables in the analysis. These two variables were labelled parental solicitation and adolescent disclosure.
Rule-setting was defined as a pre free-time monitoring construct that measured parental rule-making, which aimed to place some restrictions on adolescent free-time. Solicitation and disclosure were considered post free-time monitoring variables, the first measuring parental questioning, and the second adolescents talking about free-time activities. Tracking was considered a measure of active parental information gathering and awareness of adolescent activity (this definition of tracking will be analysed in detail later, when it is compared with similar construct definitions from the research). The Conflict Behaviour Questionnaire (Prinz et al., 1979; Robin & Foster, 1989) was also used as a measure of the conflictual-relationship between parents and adolescents. Construction of a linear data model with matched and unmatched parent-adolescent data revealed that relationships amongst the monitoring and conflictual-relationships constructs differed for parents and adolescents, and therefore separate parent and adolescent path models were required to adequately fit the data.

For the adolescent data, the model accounted for 27% of the variance in tracking. It revealed that conflictual-relationship was negatively associated with tracking behaviours, and negatively associated with disclosure. This finding shows that that when adolescents perceive their parent-adolescent relationship quality is poor, they are likely to report lower parental awareness and information gathering surrounding their free-time activities, and they are also less likely to talk with their parents about their activities. In contrast, rule-setting had a positive direct relationship with tracking, and also with solicitation. Thus, when adolescents report that rules are higher, they are also more likely to report that their parents ask them questions about their free-time, and also that their parents have a greater awareness of their activities. Solicitation was also found to be directly associated with disclosure, and disclosure was positively associated with tracking. Therefore, in this adolescent model, parents asking questions
of their adolescent was found to be positively associated with adolescents talking about their activities, and this was related to higher parental awareness.

For the parent data, the model accounted for 34% of the variance in tracking behaviours. It revealed that the conflictual-relationship was negatively associated with disclosure and solicitation. This finding shows that when parents report that the quality of their relationship is poor, they are likely to report less parental questioning, and also perceive that their adolescents tell them less about their free-time. A negative association was found between the conflictual-relationship and tracking. This shows that when the relationship is poor, parents are more likely to report lower parental awareness and information on free-time. For parents, rule-setting had a positive relationship with tracking, disclosure, and solicitation. Thus, when parents report that rules are clear, they are also more likely to report that they communicate with their adolescents, and they perceive rule-setting has a positive influence on the tracking of adolescent free-time. A surprising finding in the parent model was that tracking was not significantly associated with solicitation or disclosure, suggesting that for parents talking and questioning is somehow independent of free-time parental awareness or having information about adolescent behaviour.

In Study 3, age and gender analyses revealed some significant differences. In a replication of the results from Study 2, this study found that female adolescents perceived higher rule-setting behaviours and higher conflictual-relationships than males, although the size of the effect was small. This gender difference was not evident in the parent self-report data. In contrast, age differences were seen in both parent and adolescent data. With increasing adolescent age there was a significant decline in parental rule-setting. The 11 to 13-year-olds groups reported the highest level of rules, with a significant decline seen amongst the 14 to 16-year-olds, then a
further decline amongst the 17 to 18-year-olds. Similar age declines were seen in the tracking construct, with 11 to 13-year-olds reporting the highest scores in both parent and adolescent self-reports. Of note was the discrepancy in tracking amongst the 14 to 16-year-old group for parents when compared to adolescents. The results showed that parents’ perceive they have higher tracking levels with 14 to 16-year-old group than adolescents do, with adolescents at this age reporting similar tracking scores to the 17 to 18-year-old group.

In Study 3 the constructs that measure monitoring were then compared with adolescent reports of defiant behaviours. Study 3 found that the tracking factor was the most important predictor of adolescent defiant behaviours of smoking and alcohol use. For example, when adolescents reported that they were not allowed to drink alcohol but they do anyway, they were 52% less likely to have the same tracking score as an adolescent who had reported that they were not allowed to drink alcohol and were not defiant. This pattern was repeated for the same defiant response to smoking, with adolescents 44% less likely to have high tracking scores when they responded that they were not allowed to smoke, but did so anyway. This pattern was repeated in the parent data, with parents who suspected defiance being 59% less likely to report the same tracking score as parents who reported that their adolescent was not allowed to drink alcohol. Again, this pattern was evident for parental responses to adolescent defiance with regard to smoking, with parents 61% less likely to have the equivalent tracking scores to those parents who forbid smoking.

In Study 4, an exploratory study, the monitoring scale constructed in Study 3 was examined alongside behavioural observations made during an intervention with two families experiencing conflict. Although this small study has methodological weaknesses that make generalisations problematic, some correspondence was found
between parent and adolescent measures of monitoring, conflictual-relationship, and the behaviour observed between parent-adolescent dyads. It appears likely that the monitoring measures may be able to adequately predict problems in parental monitoring only when they have become severely dysfunctional. The interviewer impressions were able to capture the subtle nuances within monitoring interactions, and these observations appear most likely to reveal where potential problems in monitoring may emerge. Monitoring scores for the two families remained stable over the six-week intervention period. The Problem Solving and Communication Training (Robin & Foster, 1989) showed some improvement in parent-adolescent relationships, but there was no impact on monitoring interactions.

Comparisons with Monitoring Definitions in the Literature

It seems pertinent that discussions of results from this research should begin by considering their implications for the definition of monitoring. As explained in the literature review, there were two salient monitoring definitions in the research. For clarity, in the following discussion these two definitions will be labelled respectively as the social interactional and knowledge definitions, and each will be reviewed before turning to a comparison with the present results.

The Social Interactional Definition

The social interactional definition of monitoring is stated as: parental awareness of the child’s activities, and communication to the child that the parent is concerned about, and aware of, the child’s activities (Dishion & McMahon, 1998). The important aspect of this definition is that monitoring is a broad term that covers both structuring
of the adolescents’ environment, and tracking their activities. In the process-monitoring model, this broad definition became the foundation on which to consider examining the interactions between parent-adolescent dyads. It is proposed that because the social interactional definition of parental monitoring is broad, it cannot be measured with one construct, and must include parent and adolescent monitoring behaviours.

The Knowledge Definition

The opposing definition comes from Kerr and Stattin (Kerr & Stattin, 2000; Kerr et al., 1999; Stattin & Kerr, 2000), who argue that monitoring is synonymous with parental knowledge of adolescent activity, and that knowledge depends on adolescent willingness to disclose. In contrast to the social interactional definition, the knowledge definition is narrow and can be measured by the single construct of parental knowledge of adolescent behaviour during free-time. Knowledge is determined by the outcome of monitoring interactions, that is, what parents know about free-time. Therefore, the knowledge definition does not include behaviours that are evident when parents and adolescents engage in monitoring interactions, for example rule-setting. In the studies of Kerr and Stattin (Kerr & Stattin, 2000; Kerr et al., 1999), the constructs that were measured included solicitation, disclosure, trust, and knowledge of activities, although only the latter construct was purported to be ‘monitoring’. Stattin and Kerr (2000) claim that monitoring rests on an understanding of the factors that determine adolescent disclosure rather than parental activity, and herein lies the greatest disparity in the two definitions.

Before comparing results from this thesis to those of Kerr and Stattin (Kerr & Stattin, 2000; Kerr et al., 1999) it is essential to make two qualifying statements. Firstly, Kerr and Stattin’s work is on a large sample of 14-year-old Swedish adolescents (N = 1283) and their parents; while in the present research, Study 3 is on a
smaller sample of Australian adolescents \(N = 202\) and parents \(N = 210\), and Study 2 was on a large sample of predominantly 14 and 15-year-old adolescents only \(N = 1285\). Secondly, Kerr and Stattin used disclosure and solicitation constructs that consisted of five disclosure questions and five solicitation questions, whereas the present study used only one question for each and the range of responses was therefore restricted. These methodological differences may be the contributing factors to the alternative results.

**Support for a Social Interactions Definition**

The results of this present research support a broad definition of monitoring. In Study 2 it was argued that the measured constructs that constitute monitoring were conflict, rules, and supervision; while in Study 3 the monitoring constructs included rule-setting, solicitation, disclosure, tracking, and conflictual-relationship as a setting factor. To adopt the alternative knowledge definition would demand that rule-setting, conflictual-relationships, solicitation, disclosure, and relationship quality should not be considered as essential components of monitoring interactions. It is argued that this notion is not supported by the present studies or the established literature (Dishion & McMahon, 1998; Dishion et al., 2003; Patterson et al., 1992).

In Study 3, it is the factor that was labelled tracking that is the most contentious in terms of adopting either a broad social interactional definition of monitoring, or the narrow knowledge definition. The question that comes to mind is: Are monitoring knowledge and tracking the same construct? To answer this it seems essential to consider the variables that comprised the tracking factor, and consider how the labels of tracking versus knowledge might apply. In Study 3 the variables that comprised the tracking factor asked parents and adolescents if adolescents engaged in free-time
behaviours: (a) without advising parents, (b) without parental knowledge of their whereabouts, and (c) without parental approval. The label tracking was chosen because it implies an action with three broad meanings: (a) If you track someone, then you investigate them or follow in their footsteps, because you are interested in finding out more about them; or (b) if you keep track of a person you try to have accurate and up-to-date information about them, and (c) if you lose track of someone, you no longer know where they are or what is happening. Hence, in this research, tracking was thought to measure the degree to which parents were actively engaged in the management and information gathering about their adolescent’s free-time behaviour.

On the other hand, knowledge means information and understanding about a person or subject. Monitoring knowledge, as defined by Stattin and Kerr (Stattin & Kerr, 2000), is parents’ knowing about their adolescent’s activities when outside the home. An investigation of the variables that were used by Kerr and Stattin (Kerr & Stattin, 2000; Kerr et al., 1999) reveals that they were somewhat different to the items used in this present thesis, and that they began with the premise ‘do your parents know’. It is argued that in Study 3, the label of knowledge did not adequately define the measured variables, for example does your teenage do things you do not approve of? The variables that contributed most to the prediction of variance in tracking were the measure of parent-adolescent conflictual-relationship and rule-setting. This provides further evidence that in this present series of studies a construct definition of tracking is more apt than knowledge, because knowledge is predicted by disclosure (Stattin & Kerr, 2000).

It is proposed then that tracking is an active construct, which forms one part of the monitoring process. Tracking measures parental efforts to be aware of, and gather information about their adolescent’s use of free-time, and this is why tracking was
predicted by the other parental behaviours of rule-setting, conflictual-relationships, solicitation and disclosure (with some different associations between parent and adolescent reports). A high tracking score was predicted by improved parent-adolescent relationships, higher rule-setting, and high disclosure (for adolescents only), and thus, it is suggested that high tracking scores indicate that parents were actively engaged in managing their adolescent’s free-time behaviours and that they were aware of their activities. In contrast, a low tracking score, as predicted by poor parent-adolescent relationships, low rule-setting, and low disclosure (for adolescents only), implied that parents were not effectively sharing in their adolescent’s free-time, and therefore, they had somehow lost track of their adolescents. Low tracking scores were predictive of defiant behaviours.

The factors measuring rule-setting from studies 2 and 3 also fit within the broad social interactional definition of monitoring. It is argued that rule-setting is part of the repertoire of parental monitoring behaviours. Rule-setting includes parents establishing curfews, and providing adolescents with rules to limit behaviours, for example, requiring the adolescent to telephone if they are going to be late home. There can be little doubt that establishing rules for adolescent free-time behaviour does not fit within the knowledge definition of monitoring.

One issue remains when comparing the social interactional definition of monitoring with the knowledge definition. That is the proposition that monitoring is knowledge because it is acquired primarily through adolescent disclosure, and other sources of information are secondary (Statton & Kerr, 2000). The results of the first qualitative study with adolescents revealed that disclosure was certainly important, but the level of disclosure differed with age. It was also found that adolescent disclosure was dependent on several factors including: (a) the relationship quality, (b) the
expectations parents had about the extent of adolescent disclosure after free-time, and (c) the characteristics of parents that determined the extent of their questioning. It was apparent in Study 1 that adolescents anticipated what their parents would want to know about when they returned home, and that their disclosure matched these parental expectations. Thus, parental monitoring expectations may be an important factor in future monitoring research, and importantly, parental expectations have been considered previously as a determinant of parental reinforcement contingencies (Patterson & Dishion, 1985).

In Study 3, although only two variables were used to measure solicitation and disclosure it was apparent that parents and adolescents view communication differently. For parents there was no relationship between the disclosure and solicitation variables and tracking; but with adolescents, solicitation was associated with disclosure, and disclosure predicted tracking.

In the case examples from Study 4, it was evident that in these two families knowledge was certainly acquired from disclosure, but it was also obtained from alternative avenues including parental questioning and parental observations of their adolescent’s behaviour. This latter point is most important and has generally been neglected in monitoring research; it appears that parents acquire considerable knowledge of their adolescents by simply observing them. The relevance of parental behavioural observations in monitoring may not have been considered in the ‘disclosure imparts monitoring knowledge’ conclusion. Yet, adolescent statements from Study 1 provide some clues that parents might use behavioural observation to acquire knowledge, for example, ‘when I get home Mum can tell’, or ‘my Mum just knows’, or ‘I walk in the door and they look at me.’
Overall, a broad definition of monitoring arising from this series of studies fits well with the definition of Dishion and McMahon (1998). The present author argues that the knowledge definition, where monitoring is defined by one single construct, is too narrow and that knowledge is only one outcome of monitoring interactions. Further, the knowledge definition was not accepted in this series of studies because it implies parental passivity, and does not account for parenting behaviours that contribute to knowledge gathering, in particular conflictual-relationship and rule-setting. Future research may also reveal that parental observations of adolescent behaviour, and parental expectations for adolescent disclosure are also important to monitoring interactions. It is argued that monitoring should be defined as an interactive process, which has foundations in the parent-adolescent relationship quality, and that it is influenced by parental behaviours such as rule-setting and parental questioning, as well as adolescent behaviours such as disclosure. Tracking or knowledge measures should be considered as indicators of the monitoring process. In other words, it is the composite of parent and adolescent monitoring behaviours that contributes to a parent’s ability to monitor their adolescents free-time activity; and, the most important indicator of whether parents have been successful at monitoring their adolescent’s behaviour comes from measuring the extent of parental tracking or parental knowledge.

Methodological Considerations from the Literature Review

Self-Report Methods

One of the shortcomings in parental monitoring research is the self-report questionnaire measures used, and with the exception of studies 1 and 4, this thesis is
also hampered by similar limitations. The ambiguity in some standard questions of monitoring, for example, ‘do your parents usually know where you are after school’ was of concern, primarily because scoring high on such items does not necessarily indicate whether parents approve or disapprove. For example, they may know where an adolescent is after school, but may feel powerless to influence their adolescent’s behaviour. To counter this, in Study 3 the questions were changed to attempt to capture whether parents were able to track their adolescents free-time, rather than whether they had knowledge. For example, (a) do you go places without telling parents where you are? In this way, tracking, as one component of monitoring, was purported to capture when adolescent free-time behaviour was no longer influenced by parents active monitoring efforts.

Research utilizing self-report measures has shown that low scores in monitoring constructs will correlate highly with problem behaviours, and this is important data found in most correlational studies. However, for intervention or experimental studies, self-report measures are too narrow and do not capture the adolescent-parent interactive behaviours that are likely to contribute to poor or optimum monitoring. Alternative methodologies were used in studies 1 and 4, and although qualitative, they revealed that monitoring of adolescents is multi-faceted. The complexity of monitoring interactions that was seen in Study 4 was revealed only through observations of interactions. The importance of behavioural observations was also evident in the OYS research where the interviewer impressions were found to be the most important contributor to the construct of monitoring (Capaldi & Patterson, 1989). Future research using alternative methods to self-report is likely to reveal richer information on the interactive process of monitoring, and thereby enhance understanding of the contributions of parents and adolescents. From observations in this work it appears
that improving parental monitoring is unlikely to occur from changes in one construct only, for example increasing only adolescent disclosure. Rather, improved monitoring would most likely require multi-dimensional changes, with a particular focus on improvements in parent-adolescent relationships.

Concordance between Parent and Adolescent Reports

Past research has shown that concordance between parents and adolescents on self-report measures is generally quite low, ranging from $r = .13$ (Hartos & Power, 2000a) to $r = .43$ (Kerr et al., 1999). In Study 3, the matched parent-adolescent data ($n = 36$) revealed quite high correlations of $r = .58$ on rule-setting, $r = .65$ on tracking, and $r = .72$ on conflictual-relationship, while disclosure and solicitation were lower ($r = .16$ and $r = .10$ respectively). Despite these high correlations, analysis of the means scores in the matched dyads revealed that parents had significantly higher mean scores on tracking, disclosure, and solicitation than their adolescents did. The scores on rule-setting were also higher for parents, although not significantly. In contrast, scores on the conflictual-relationship, as measured by the CBQ, did not differ markedly in mean score analysis for the parent and adolescent samples.

Comparisons of mean scores and distributions on the complete parent and adolescent data set from Study 3 revealed similar patterns to the matched data. Analysis of this data by adolescent age revealed that parents and adolescents reported similar levels of decline in rule-setting and tracking as adolescent age increased. There was one notable exception; this was that tracking scores reported by 14 to 16-year-old adolescents were lower than parent scores, and not significantly different to scores reported by the 17 to 18-year-old group. This was also noted in Study 1 where 14-year-old adolescents reported increased secrecy and less disclosure to parents. Although
further investigation is required, these findings suggest that with increasing age comes decreasing congruence between parental and adolescent monitoring reports. It is unclear whether this incongruence continues into later adolescence.

Past research has shown that parents tend to overestimate their levels of monitoring (Patterson et al., 1992). Results from the present studies support the notion of parental overestimation, but there is no evidence to support the notion that parental reports of monitoring are valueless. Interpretations of parental monitoring scores need to take into account that in general parents will tend to overestimate their capacity to monitor. Conversely, because adolescents have more negative views of their family (Noller, 1994), future studies that investigate the level of adolescent underestimation of monitoring are needed. Despite the different perspectives, these studies found some consistency in parent and adolescent reports, in that both parents and adolescents will report declining monitoring scores as adolescent age increases. It is argued that poor correspondence between parent and adolescent reports is a key notion that requires further exploration.

Sampling Issues

The final methodological issue that was considered important in the literature review was whether the relationship between poor monitoring and problem behaviour was representative of population-based samples of males and females, as opposed to clinical samples, or samples of one gender only. In Study 2 and 3 it was found that where problem behaviours were reported, lower monitoring was also found. This is the same pattern that has been reported in studies with high-risk samples (for example Ary, Duncan, Biglan et al., 1999; DiClemente et al., 2001), and the studies of boys (G. M. Barnes & Farrell, 1992; Patterson et al., 1992). Some limitations of the sampling in the
present studies need to be highlighted alongside interpretations. In Study 2 there was a high response rate, but the sample was only 14 and 15-year-old adolescents, while in Study 3, a self-selected sample was used that may be unrepresentative in other unmeasured ways. Nevertheless, the patterns of relationships between constructs are assumed to be representative of non-clinical populations, and represent a first step toward establishing normative levels of rule-setting and tracking.

*Comparisons with Research on Monitoring and Problem Behaviour*

The results of this present series of studies corroborate the research literature, in that poor monitoring is consistently associated with adolescent problem behaviours (for example see Ary, Duncan, Biglan et al., 1999; Laird, Pettit, Bates et al., 2003; Patterson et al., 1992). Specifically, in Studies 2 and 3, alcohol use was associated with poor monitoring, and these results were also found by Barnes and colleagues (G. M. Barnes & Farrell, 1992; G. M. Barnes et al., 2000; G. M. Barnes et al., 1999). Smoking was associated with poor monitoring, a finding that is similar to the previous research (Baker et al., 1999; DiClemente et al., 2001). Study 2 and 3 also found an association between deviant peer associations and poor monitoring, as reported in previous work in the OYS (Dishion et al., 1995; Patterson & Dishion, 1985; Patterson & Yoerger, 1997).

Of note in the findings from Study 3 is that poor tracking was the best predictor of defiant behaviour, and that rule-setting and conflictual-relationship were not significant in predicting these variables. In Study 3, the defiant behaviour variables were measuring adolescent defiant responses, that is, engaging in problem behaviours when they knew their parents did not approve; while parents were reporting that they suspected or were aware that their adolescents engaged in some problem behaviours.
Therefore, it appears that while poor rule-setting and poor relationship quality will predict poor tracking, they were not significant predictors of adolescent defiance with regard to problem behaviours. Rather poor tracking, as a measure of information gathering and awareness, was the best predictor of this level of adolescent disregard for parental authority.

Comparisons with Literature on Adolescent Development

Developmental evidence has shown that adolescents have an increasing need for independence (Larson et al., 1996). In the literature, adolescent age was found to be associated with increases in the number of unsupervised hours and decreases in mean monitoring scores (Patterson & Stouthamer-Loeber, 1984). Although age analysis has been considered in only a few studies, the following discussion of results suggest the importance of age analysis in monitoring.

Age Differences Across Adolescence

In Study 1 there were qualitative differences in the monitoring interactions reported by adolescents. In this Australian sample, at approximately 14 years of age, adolescents were likely to show some reticence about sharing the same amount of information with their parents that they had previously. This may be a key as to why adolescent disclosure was such a significant finding in the studies of Kerr and Stattin (Kerr & Stattin, 2000; Kerr et al., 1999), given that their sample was predominantly 14-year-old adolescents. In Study 1 it was noted that disclosure was a highly emotive topic for 14-year-olds, who had begun to demand greater privacy. Therefore, it becomes important to understand how parents monitor behaviours when disclosure is low, and
what other parent-adolescent dyadic factors may contribute to the continued sharing of information.

In Study 3, significant age differences were found for rule-setting and tracking, while no significant relationship was found between age and conflictual-relationship. For rule-setting, parents and adolescents reported higher scores for younger adolescents at 11 to 13-years, and this declined at 14 to 16-years, and declined further at 17 to 18-years. A similar declining pattern was evident in tracking scores, but as discussed earlier there was a greater disparity between parent and adolescent reports of tracking amongst 14 to 16-year-old adolescents. No age effects were seen for disclosure or solicitation in this study, but the restricted range of scores from these single variable measures limits conclusions from this finding.

Overall, it appears there is a marked difference in the independence, privacy, and maturity of behaviour across adolescence. Therefore, one would not expect the disclosure, privacy, or independence of a 12-year-old to be equal to that of a 16-year-old. Despite this, one monitoring definition and the same questions have generally been applied to adolescents of all ages. Consequently, the same conclusions have been reached, that is, parents should monitor more by asking more questions. While this conclusion might fit adequately for monitoring of 12-year-olds, it does not sit well with the findings for the 14 and 16-year-old groups. Results from this research suggest that parents and adolescents have different expectations of monitoring, and this expectation changes significantly with adolescent advancing age. Hence, it is argued that future research must account for the developmental stage of adolescents in monitoring research, and this may require adjustments to the measures to suit developmental stages.
**Gender Differences**

Gender differences have been reported in the parental monitoring literature, with greater declines seen in the monitoring of boys (Laird, Pettit, Bates et al., 2003; Laird, Pettit, Dodge et al., 2003), and females perceiving greater monitoring than males (Borawski et al., 2003; Crouter et al., 1999; Li, Feigelman et al., 2000; Smetana & Daddis, 2002; Svensson, 2003). The results of Studies 2 and 3 partially support these findings with evidence of gender differences in rules, conflict and conflictual-relationship measures. In both studies female adolescents perceived higher rule-setting behaviours from parents and also greater conflict or relationship difficulties. However, there were no significant gender differences found in tracking. These finding indicate that female adolescents are likely to perceive greater parental control through rule-setting, and that females are also likely to perceive more conflict in their relationships with parents.

**Behavioural Autonomy**

The literature on behavioural autonomy has shown that adolescents and parents have different views on the most appropriate age for granting independent activity. Although there is limited research on the conditions and ages under which parents grant high or low behavioural autonomy, parents and adolescents have been shown to vary by an average of 14 months in their estimates of appropriate ages for independent activity (Hudson et al., 1986). In this present research the significant differences in the mean scores found between parental and adolescent reports of rule-setting and tracking support the notion that parental and adolescent perceptions of autonomy will differ. What is not clear in these results is how the different perceptions of autonomy might influence monitoring interactions. It seems likely that the answer will differ somewhat
within parent-adolescent dyads, and may depend on individual family history of interaction processes.

In addition, previous research has shown that parental granting of independence is related to contextual factors, including position in family, timing of menarche, traditional family views, locality (rural vs. urban), ethnicity (Bumpus et al., 2001), and neighbourhood safety (Coley & Hoffman, 1996). This present research did not account for these contextual factors. Nevertheless, to understand the granting of autonomy and how this may influence monitoring it is likely that the influence of family context may be a necessary consideration.

**Comparison with Literature on Parent-Adolescent Relationships**

The results from this research have found that when the quality of the parent-adolescent relationship is poor, monitoring is also likely to be poorer. In Study 1 it was evident that when adolescents maintained good relationships with their parents, they were more likely to report a willingness to share their lives with their parents. Also in Study 1, adolescents who reported poor relationships reported that they only gave their parents only minimal information. In Study 3, parent-adolescent conflictual-relationship was negatively related to tracking, which was considered a measure of parental awareness and ability to keep informed about adolescent free-time. These result are in line with research that has shown that greater relationship enjoyment, higher parental involvement, and less antisocial behaviour is associated with improved monitoring (Laird, Pettit, Dodge et al., 2003).
Conflict

The work of Patterson and colleagues attests to the importance of understanding the role of conflict and coercion in families (Patterson et al., 1992). Other researchers have also found that high conflict is related to poorer monitoring (Ary, Duncan, Biglan et al., 1999; Ary, Duncan, Duncan et al., 1999). The role of conflict and conflictual-relationships with monitoring was supported in Studies 2 and 3. In Study 2, the data modelling showed that when conflict was high, as measured by people yelling or arguing, problem behaviour was also higher. As discussed previously, for conflict there was some evidence of gender differences in Study 2 and 3, with girls’ data showing stronger relationships between high conflict and rule-setting. Formoso et al. (Formoso et al., 2000) found that for girls, high monitoring weakened the relationship between conflict and problem behaviour. Taken together these results suggest that parental-adolescent relationship quality and conflict are important factors in understanding parental monitoring, although the effect of gender requires further investigation.

Trust

The relationship between trust and monitoring has only recently been reported in the literature, with positive correlations between monitoring and trust shown (Borawski et al., 2003). Stattin and Kerr (2000) argue that trust and adolescent feelings of being controlled are important contributors to monitoring knowledge, and report that parental solicitation (asking children what they have been doing) is associated with higher, not lower, problem behaviour. In this present research a surprising finding from Study 1 was the importance that adolescents placed on trust. They perceived parental trust was an essential ingredient in their monitoring interactions with their parents, and they reported that trust was also crucial in maintaining their independence. There was a
common notion expressed that if adolescents lost their parent’s trust it was difficult to earn it back. This finding may be linked to parental expectations. Kerr et al. (Kerr et al., 1999) reported that knowledge of daily activity was the most important predictor of trust, above that of knowledge of past delinquency, and knowledge of feelings and concerns. This attests to the reciprocal nature of trust, and suggests that when trust is evident parent-adolescent dyads may be likely to share more information. Although an important interaction between monitoring and trust may be present, the findings on the importance of trust need further replication. Further, an understanding of the associations that trust has with relationship quality, parental expectations, conflictual-relationships, rule-setting, and tracking or knowledge may help to clarify the role of trust, particularly if the associations between trust and monitoring are explored at different adolescent developmental stages.

Parental Contributions to Monitoring

Dishion and McMahon (1998) proposed that parental monitoring is embedded within other parenting dimensions including relationship quality, motivations, goals and values, parental behaviour management skills, and the social context of the family. The present thesis supports this concept by adopting a broad view of monitoring; where it is evident that monitoring is comprised of several parenting behaviours. In this view, parental knowledge or tracking forms only one element, and may be considered as an outcome of the monitoring process. The results of this present work show that other behaviours such as rule-setting, solicitation, or parental communication are integral to the monitoring process, and in this way monitoring behaviours fit within the complex parenting dimensions shown in Dishion and McMahon’s parenting model.
**Direction of Monitoring Effects**

Recently, a series of papers have been published that debate the causal direction of effects in monitoring, that is, whether monitoring is an adolescent-to-parent effect, or a parent-to-adolescent effect (Brody, 2003; Capaldi, 2003; Kerr & Stattin, 2003a, 2003b; Menaghan, 2003). Kerr and Stattin (Kerr & Stattin, 2000, 2003a, 2003b; Kerr et al., 1999; Stattin & Kerr, 2000) argue that monitoring is an adolescent-to-parent effect based on parental knowledge, given that child disclosure is the most important factor contributing to monitoring knowledge. In contrast, the longitudinal work of Patterson, Capaldi, Dishion and colleagues (Capaldi & Patterson, 1989; Dishion et al., 2003; Patterson et al., 1992) has provided substantial evidence that monitoring is bi-directional (Capaldi, 2003).

The results of these present studies support the argument that monitoring is bi-directional, rather than primarily dependant on either adolescents or parents. In the adolescent model in Study 3, it was found that disclosure, rule-setting, and conflictual-relationship were all important predictors, but conflictual-relationship was the most important. In the parent model, disclosure was of minimal importance. Therefore, the present results support Kerr and Stattin’s past findings that adolescent disclosure is an important predictor of monitoring, but not that it was the most important predictor. However these comparisons are made bearing in mind the previously discussed qualifying statements on the differences in sampling between the present work and Kerr and Stattin’s research (Kerr & Stattin, 2000; Kerr et al., 1999). Nevertheless, while some monitoring constructs can be considered as mostly adolescent directed, such as disclosure; others should be considered as most likely parent directed, for example rule-setting; and others are most likely bi-directional, such as relationship quality. Still other constructs were not measured, such as parental expectations or
parental observations. Hence, it is argued that these findings confirm that monitoring must be conceptualised as a bi-directional process.

Furthermore, when considering the weight of parental agency versus adolescent agency in monitoring interactions, the effect of age and development has not been fully accounted for in the literature. As discussed previously, this research has found age and maturity are likely to influence the level of parental involvement and expectations toward adolescent decision making surrounding their free-time. For example, in this Australian sample the 14-year-olds interviewed in Study 1 appeared to view disclosure with more negativity than the younger 12-year-old group, and the 14-year-old group in Study 3 had significantly different perceptions of tracking than parents. In addition, it is argued that the behaviours that comprise monitoring are likely to be constantly altered by past monitoring episodes. Therefore, taking adolescent development and monitoring history into account, the direction of effects is also likely to fluctuate.

It seems clear that more experimental work is necessary to shed further light on the direction of effects in monitoring. The recent experimental work of Dishion, Nelson, and Kavanagh (2003) has shown that over four years, parents of high-risk adolescents could be instructed to increase monitoring, and this is the first study to not only demonstrate a parent-to-child effect experimentally, but also to show that when parents improve monitoring they can effect changes in their adolescent’s problem behaviour.
Theoretical Issues

As postulated in the theoretical review from chapter one, monitoring interactions have multiple levels of influence. The process-monitoring model was developed from the theoretical principles of behavioural and social learning theories in an attempt to establish a theoretical model in which to consider parent-adolescent interactions in monitoring. The theoretical review also included adolescent development, parenting characteristics, and ecological context as important considerations in understanding monitoring. These theoretical foundations will again be considered in light of the results from these studies.

Behavioural Principles and the Process-Monitoring Model

The purpose of this present series of studies was to investigate the interactive nature of parental monitoring and provide an initial test of the proposed process-monitoring model. The results from these studies have shown that there is some support for evaluating the behaviours that comprise monitoring interactions, within the interactive framework shown in the process-monitoring model. It was seen that pre free-time behaviours can have a significant impact on parental monitoring. Some examples are when parents set curfew times or request that adolescents must telephone if they are running late. It was also seen that post free-time behaviours, specifically parent-adolescent communication, can contribute significantly to monitoring interactions. However, it was evident that parents and adolescents have different perceptions on the relevance of parents asking questions or adolescents talking about their activities. Conflict and relationship quality were seen as important setting events in which monitoring interactions are likely to take place. It is argued that tracking and
supervision in these studies, along with knowledge in Kerr and Stattin’s (Kerr & Stattin, 2000) work, are constructs that measure the outcomes of parent-adolescent monitoring interactions, and therefore, they are not represented in the process-monitoring model, which depicts only the behaviours that would be observable in monitoring interactions.

Coercion and monitoring

One of the central assumptions used in developing the process-monitoring model was that conflict and coercion would influence monitoring interactions. This was based on the coercive family process model of Patterson and his colleagues (Patterson, 1982; Patterson et al., 1990; Patterson, DeBaryshe, & Ramsey, 1989; Patterson et al., 1992). These researchers have demonstrated repeatedly that when avoidance and escalation are present, family interactions show escalating coercive cycles. Therefore, where an adolescent is displaying problem behaviours, one would expect them to be coercive towards parental attempts to monitor, regardless of whether this behaviour is rule-setting, solicitation, or some other parent directed behaviour. Adolescent aversive behaviours are likely to be punishing to parents and this would then weaken their monitoring behaviour, specifically through parents avoiding arguments and the escalation cycle.

Kerr and Stattin’s (Kerr & Stattin, 2000, 2003a; Kerr et al., 1999; Stattin & Kerr, 2000) alternative approach to monitoring has lead to new ways of conceptualising monitoring. The authors postulated four possible reasons why parental monitoring may decrease in response to adolescent delinquent behaviour: (a) ignorance of the adolescents activities; (b) intimidating behaviour from the adolescent when parents attempt to monitor; (c) denial by parents of their adolescent’s problem behaviours; and
(d) futility because parents feel powerless to change the behaviours (Kerr & Stattin, 2003a). They found more evidence to support intimidation, and concluded that parents asking questions of their adolescents may be harmful. From a behavioural or social learning perspective it seems clear that intimidation, from either adolescent or parent, would almost certainly be detrimental to monitoring. The proposed process-monitoring model takes coercion and conflict into account, by contending that each monitoring episode is likely to impact on future monitoring episodes, depending on parent and adolescent responses to past interactions. The interviewer observations in Study 4 suggest that an understanding of the evolutionary nature of parental monitoring is worthwhile. For example, in Family 1 it was evident that the parent’s response to her son’s problem behaviour was to attempt to increase rule-setting, and this was creating conflict between the dyad.

Thus, results of this present research support the central tenet of the process-monitoring model, in that coercion and conflict will have an important impact on monitoring. However, this research was limited in that only Study 4 used observations of parent and adolescent behaviour, and this occurred during monitoring re-enactments. Observation work is necessary to develop the process-monitoring model further.

*Rule-governed behaviour and monitoring*

These studies have shown the importance of understanding rule-setting in monitoring interactions. The literature revealed that rule-setting is important to family interactions, with a noticeable absence of rules seen in dysfunctional families (Patterson, 1982). Furthermore, adolescent perceptions of parental rules has a significant relationship with poor monitoring, alcohol and drug use (G. M. Barnes & Farrell, 1992). In Study 2 and 3 rule-setting was found to contribute significantly to
poor monitoring, with higher rule-setting corresponding to higher monitoring scores. However, the variables that measured rule-setting in the present studies related to general free-time behaviour, for example needing to contact parents if running late. What is needed is continued research that examines the consequences of following rules, as well as the associations between parental expectations, rule-making, and adolescent compliance with rules. Study 4 showed an example of the complexity in rule-setting within the monitoring context that was not exposed by the self-report measures. The interviewer observations revealed that for Family 2, the mother set rules, but they were regularly broken, and the consequences for non-compliance had little or no impact on the adolescent in this dyad.

It is argued that further consideration of the principles of rule-governed behaviour will be important to developing an understanding of monitoring interactions. Specifically, an understanding of what types of monitoring rules are effective, and why they are effective, is required. Exploring this relationship between rule-setting and monitoring in greater depth may require new approaches to measurement.

Limitations of the Research and Conclusions

The present author contends that monitoring is bi-directional. It is argued that the contrasting results between this present work and some of the literature are a result of weaknesses inherent in the self-report methodology. Further, the conclusions drawn from Study 2 and 3 have the limitations inherent in all data modelling methods. That is, as with all statistical tests of theoretical models, the models can only account for the variables that have been measured and important variables may have been omitted.
These studies did not measure the episodic cycle of monitoring, nor did they include observations of monitoring interactions or parental expectations. Also, variables that may account for parent-adolescent characteristics or the family ecology were not included. Nevertheless, it is argued that the research provides initial support for considering the process of monitoring, and the process-monitoring model establishes a solid theoretical foundation to do this.

Implications for Research

There is now a large correlational research base, which shows that when adolescent problem behaviours are high, parental monitoring is lower. This finding is supported in monitoring research, irrespective of the opposing parent-child or child-parent direction individual researchers have adopted in their interpretations. The resultant conclusion that increasing monitoring will reduce problem behaviours has been widely accepted, and the Kerr and Stattin’s (Kerr & Stattin, 2003a, 2003b) argument that parents cannot actively increase monitoring is viewed as a radical departure. Monitoring research still has considerable gaps to address before either of these conclusions can be supported. Future research that investigates the process of monitoring is needed, and this requires new approaches to measurement that are broader than the current self-report methodology.

It is argued that clarity in monitoring research can best be achieved through experimental and observational work. A continuation of behavioural observation methodology, as demonstrated in the Oregon Youth Study (Capaldi & Patterson, 1989; Patterson & Bank, 1987; Patterson et al., 1990; Patterson et al., 1991; Patterson et al., 1989; Patterson et al., 1992; Patterson & Yoerger, 1997), is likely to resolve many
questions on parental monitoring and the parent versus adolescent contributions. Once monitoring behaviours are operationalised, they can then be manipulated, and observations of the impact of ‘increased monitoring’ for both parent and adolescent evaluated.

**Implications for Intervention**

With regard to intervention with families, the research has demonstrated that relationship quality, pre free-time monitoring behaviours, and post free-time monitoring behaviours are strongly associated, and together they form the monitoring process. It is argued each of these factors must be accounted for in intervention work.

At the universal level of interventions, enhanced monitoring is not likely to occur by simply advising parents to ask more post free-time questions of their adolescents. It is hypothesised that increased questioning may even have a detrimental effect on monitoring interactions in some families. Similarly, educating parents to increase rule-setting, without attending to relationship issues or levels of conflict may be problematic, and may also contribute to increased coercive interactions. It seems more promising to consider that universal education for optimum monitoring depends on the quality of parent and adolescent interactions, and having this in place, parents can then be advised to have clear and consistent rules, set appropriate limits, have low conflict, and maintain open communication following free-time. It is important to acknowledge that in monitoring interactions there is a measure of personal agency from both parents and adolescents, and this must be accounted for in universal work with families. These conclusions are made with the caveat that an understanding of education on monitoring at the universal level has not been tested, and it is necessary to
explore the effects of change further in order to provide accurate psycho-educational information to parents.

Intervention work on monitoring with high-risk families has only just become evident in the literature, with promising results seen (see Dishion et al., 2003). This present research has shown that conflict and coercion are key concepts in monitoring with problem families, and an understanding of these interactions cannot be readily transferred from self-report correlational studies to clinical intervention. It is argued that a strong theoretical base and continued experimental investigation is needed in order to understand how to effect change in monitoring amongst high-risk families. The goal in monitoring interventions is to increase parental capacity to track their adolescent free-time, given that poor tracking consistently predicts defiant behaviour.

The defiant behaviour measure used in Study 3 revealed that adolescents reported engaging in problem behaviours even though they knew their parents did not approve. Parents were also reporting that they either suspected or were aware that their adolescents engaged in some problem behaviours. Thus, improved knowledge is not likely to resolve poor monitoring. It appears from the correlations between tracking and these defiant behaviour measures, that when parents have a reduced capacity to keep track of their adolescents, they are likely to have corresponding reductions in parental influence over their adolescent’s behaviour. In other words, the adolescent has learned to behave in ways that stretch the boundaries, or they have learned to disregard them; also parents may feel powerless to influence them, or may be negligent and not care to influence their adolescents free-time. Hence, it is argued that measuring the process and evolution of monitoring is necessary to understand how parenting might shift in response to adolescent behaviour, and vice versa. It would seem that in high-risk or distressed families, some adolescents are determined to thwart parental attempts to
keep track of them, and requesting that parents improve awareness of adolescent
activity may be futile, leading to higher conflict and greater avoidance. In high-risk
families, working on the quality of the relationship appears the place to begin when
attempting to improve monitoring.

Conclusions and Future Directions

A process-monitoring model of parent-adolescent monitoring interactions was
developed using behavioural and social learning theories. It was proposed that
monitoring is multi-dimensional and influenced by parents and adolescents. The model
depicted the multiple levels of influence from parents and adolescents that are likely to
occur within each monitoring exchange. Importantly, the model proposed that
monitoring is evolutionary, with each interaction dependant on previous episodes of
monitoring, and influencing future monitoring.

The first exploratory study in this present series revealed that there were
noticeable age differences in adolescent perceptions of monitoring interactions with
parents. The younger 12-year-old adolescents appeared willing to engage with parents
about their free-time; the 14-year-old adolescents expressed a strong need for privacy;
and the 16-year-old adolescents reported greater independence and less parental
control. The processes of monitoring that were important to the adolescents in Study 1
included their parent-adolescent relationship quality, communication, and trust. In
Study 2 a population-based survey with a sample of 14 and 15-year-old adolescents
was used as an initial test of the process-monitoring model. Some initial support was
found for the model, with rules, supervision, and conflict shown to be important predictors of defiant behaviour in adolescents. Where adolescents reported lower rules, high conflict, and low supervision they were more likely to report engaging in defiant behaviours included sensations seeking, rebelliousness, and early antisocial behaviours.

In Study 3 the process-monitoring model was further tested and support gained for looking at monitoring with a broad definition. In this study of parents and adolescents it was found that conflictual-relationship, rule-setting, solicitation, and disclosure predicting tracking, which was a measure of parental information gathering and awareness of adolescent free-time. In this study it was also found that different statistical models were required for parents and adolescents, with some differences in disclosure and solicitation evident. This study found that tracking was a significant predictor of adolescent defiant behaviour. Study 4 was exploratory, and considered the process of monitoring in two families that were currently experiencing high conflict and distress. There was preliminary evidence that poor monitoring scores are likely to accurately reflect high levels of monitoring distress, but low levels of dysfunctional monitoring or emerging dysfunction were not revealed in the self-report scales. This study found that interviewer impressions and observations of interactions were a valuable tool for understanding monitoring in high-risk families.

Age differences were found in parent and adolescent data, with a tendency for higher monitoring reported amongst younger adolescents. Although only statistically small, some gender differences were found in Study 2 and 3, with female adolescents perceiving higher rules and conflict.

This series of studies supported the existing research which has shown that parental monitoring is consistently associated with adolescent problem behaviours, including alcohol use, drug use, deviant peer relations, and poor academic
achieve. Despite the consistency in the literature, controversy continues to surround the parental monitoring construct. It is argued that this controversy is resultant from opposing definitions of monitoring. The broad social interactional definition proposes that monitoring is a construct used to describe parental active efforts to manage adolescent’s free-time, while the knowledge definition defines monitoring as a construct which describes the level of information parents have acquired. These two approaches have resulted in two different stances on the direction of effects in monitoring, and this has led to confusion over the role of parents and adolescent in monitoring.

This research supported the broad definition of monitoring, given that it embraces the behaviours that comprise monitoring, and is able to consider the interactions within monitoring. It seems clear that rather than seeking resolution to the parent-child effects versus child-parent effects conundrum (see Brody, 2003; Capaldi, 2003; Kerr & Stattin, 2003a, 2003b), monitoring research will become further advanced through sound theoretical model development and testing. With the ongoing development of the process-monitoring model, monitoring research will be able to elucidate the temporal sequence in monitoring interactions and the evolution of monitoring across the adolescent developmental cycle. At this stage, experimental or intervention research on how families might improve their monitoring is only beginning to emerge. It is argued that behavioural observations and functional analyses of monitoring episodes can provide an understanding of the action-reaction sequence across monitoring episodes. This would provide a strong foundation on which research testing clinical changes to monitoring behaviours can be evaluated.
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List of Appendices:

A. Study 1 – Semi-structured questionnaire
B. Study 1 – Plain Language statement and consent forms
C. Study 2 – Relevant section of adolescent survey
D. Study 2 – SEM unstandardised solution
E. Study 3 – Monitoring questionnaire
F. Study 3 – Conflict Behaviour Questionnaire
G. Study 3 – Examples of Internet site
H. Study 3 - Plain Language statement and consent forms
I. Study 3 - Tables comparing adolescent (SR) and parent (PA) demographic data
J. Study 3 – Correlation of factors in final factor solution
K. Study 3 – Sample correlation of variables
L. Study 3 - Unstandardised estimates from base model
M. Study 3 - Unstandardised estimates from final adolescent and parent model
N. Study 4 – Plain Language statement and consent forms
O. Study 4 – Issues Checklist
P. Study 4 – Daily record of pleasant and unpleasant events
Appendix A Study 1: Semi-structured Questionnaire

*Guidelines for Researchers Conducting Interviews on Adolescent Views on Monitoring.*

The following schedule is over inclusive because it includes prompts that may be needed to ease the flow of discussion. Please change wording of introduction to suit your own style and build group rapport.

*Introduction*

Thanks for taking the time to talk with me today. We are going to be talking about how teenagers and their families communicate about free time. I’m trying to find out more about how families talk about what their teenagers are allowed to do after school or on weekends.

It’s great to talk about this with teenagers like yourselves, because it gives me a real picture. I am using a tape recorder so that I do not need to worry about writing notes – afterwards I will record the main ideas without names or identification.

*Warm-up activity*

Before we start I would like to tell you a little bit about me…………(one or two sentences about yourself, everyday things like for example. I have 2 brothers and a cat)

So I get to know you a little bit lets start with an introduction…. Would you tell me your names and (warm up of your choice here).

*Warm up examples*

1. What is your all time favourite movie? Why?
2. What would be your ideal party? Why?
3. Which famous person would you most like to go out with?
4. What is your favourite possession?
5. What name did you always want to be called as a child?

**Purpose and Group Discussion Guidelines**

Now we will go back to our discussion topic. First, there are a few guidelines for talking in groups like this.

1. Only one person speaks at a time
2. There are no right and wrong ideas – even if they are not the same as ours
3. Everyone can contribute – so we can learn from each other
4. What we talk about in this group stays within this group
5. We will be talking about family communication
6. We will not be talking of personal or sensitive issues – but if there is something of this nature that you are concerned about please see me afterwards.

**Disclosure and Solicitation Questions**

1. How often do you talk with your parents about what things you do and which friends you hang out with? (Daily, weekly etc – try to get an estimate of frequency)
2. Now, imagine you have just spent a Saturday afternoon with your best friends. Can you tell me how you and your parents would share this kind of information?
3. Tell me about the things you did, and which friends you were hanging out with?
4. Do they initiate conversation, after school, before they go out?
5. What is it like talking to your parents about these things? (For examples, if they like to tell them, parents input etc.)

6. How do you work out plans for next few days’ activities? (Permission before)

**Tracking and Knowledge**

1. Tell me how your parents know what you are doing during your free time?

2. Do they usually know? (Always/never/mostly)

3. Do you check with them before doing it]

4. Can you tell me if there are times when your parents don’t know where you are?

5. How often is this likely to be (daily, weekly)

**Rules and Parental Expectations**

1. Would you tell me about the rules your parents have about you going out? For example, telling them the time you will be home…

2. Ask about telling parents when they will be home, leave a note, check in after school, etc

3. Are they allowed out late or after dark?

4. Would you say your parents usually tell you what time you must be home? (School, and leisure)

5. What would happen if you were 1 hour late home from school?

**Other**

1. What do other kids get up to?

2. Do they tell their parents?
Appendix B

Dear Students & Parents,

My name is Louise Hayes. I am a Doctor of Philosophy student at RMIT University and a Probationary Psychologist registered with the Psychologists Registration Board of Victoria.

I am studying teenagers' and parents' views on how teenagers spend their free time. My aim is to find out more about family communication, and how this changes what teenagers do in their free time. I am also trying to understand more about how families differ in their views on teenagers' independence.

The project is called:
Teenager & Parent Views On How Families Communicate

Over the coming months I will be running discussion groups in schools. I am asking teenagers from years 7, 9, and 11 to volunteer to participate. You will be asked to join in on a discussion group lasting for about 60 minutes. These groups will be held at school. There will be 6-8 students in each group, from the same year level.

The discussion groups will be run by myself (Louise Hayes), or an assistant researcher from RMIT. No school staff will be present during the discussions. The sessions will be audio taped, then transcribed with all names removed. My supervisors and I are the only people with access to this information.

Your views will be used to get a 'big picture' on the views of teenagers and parents. You will not be identified in the report. The report will provide useful information for professionals who are working with families. The results may also appear in research publications. You will be able to get a summary report from the school office.

Afterwards, the whole class will be invited to take part in a workshop on communicating with parents, and problem solving for relationships.

Professor Alan Hudson and Jan Matthews from RMIT University will supervise this project. Please call me on 9925 7376, or Alan Hudson on 9925 7360, if you have any questions or concerns at any time.

Your involvement in this project is appreciated. Attached to this letter is a Statement of Informed Consent. To participate in this project please sign this form (parents and teenagers) and return it to the school office by

Yours Sincerely,

Louise Hayes
BA, BAppSci(Hons)(Psych)

Prof. Alan Hudson
BSc, DipEd, MEd, PhD,

Jan. Matthews
BA, DipEd, GradDipAppChPsych, M.A.P.S
MEd, M.A.P.S

Any queries or complaints about your participation in this project may be directed to the Secretary, RMIT Human Research Ethics Committee, University Secretariat, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is (03) 9925 1745.
RMIT

HUMAN RESEARCH ETHICS COMMITTEE

Prescribed Consent Form For Persons Participating In Research Projects Involving Interviews, Questionnaires or Disclosure of Personal Information

DEPARTMENT OF... Psychology & Intellectual Disability Studies
FACULTY OF Applied Science

Name of participant

Project Title... Teenager & Parent Views On How Families Communicate

Name(s) of investigator(s): Louise Hayes Phone (03) 9925 7376

1. I have received a statement explaining the interview/questionnaire involved in this project.
2. I consent to participate in the above project, the particulars of which - including details of the interview or questionnaires - have been explained to me.
3. I authorise the investigator or his or her assistant to interview me or administer a questionnaire
4. I acknowledge that
   (a) Having read Plain Language Statement, I agree to the general purpose, methods and demands of the study.
   (b) I have been informed that I am free to withdraw from the project at any time and to withdraw any unprocessed data previously supplied.
   (c) The project is for the purpose of research and/or teaching. It may not be of direct benefit to me.
   (d) The confidentiality of the information I provide will be safeguarded. However should information of a confidential nature need to be disclosed for moral, clinical or legal reasons, I will be given an opportunity to negotiate the terms of this disclosure.
   (e) The security of the research data is assured during and after completion of the study. The data collected during the study may be published, and a report of the project outcomes will be provided via the school. Any information that will identify me will not be used.

Participant's consent (participant must be over 18 years of age)

Signature... Date...

(Participant)

Participants should be given a photocopy of this consent form after it has been signed.

Any complaints about your participation in this project may be directed to the Secretary, RMIT Human Research Ethics Committee, University Secretariat, RMIT, GPO Box 243, Melbourne, 3001. The telephone number is (03) 9925 1745.
Appendix C  Study 2: Adolescent Survey

The following questions are generally about the people you live with at home. Please consider the words mother and father to include step-parents, foster-parents or guardians.

Please choose NO! if you think the statement is definitely not true, no if it is mostly not true, yes if it is mostly true, and YES! if it is definitely true.

4.1 How much do you agree with the following statements? (Please choose ONE in each row)

a. The rules in my family are clear
   NO!  no  yes  YES!

b. My parents want me to call if I'm going to be late getting home
   NO!  no  yes  YES!

c. My parents ask if I've done my homework
   NO!  no  yes  YES!

d. When I am not at home one of my parents knows where I am and who I am with
   NO!  no  yes  YES!

e. My parents would know if I didn't come home on time
   NO!  no  yes  YES!

f. My family has clear rules about alcohol and drug use
   NO!  no  yes  YES!

g. People in my family often insult or yell at each other
   NO!  no  yes  YES!

h. People in my family have serious arguments
   NO!  no  yes  YES!

i. We argue about the same things in my family over and over again
   NO!  no  yes  YES!

j. My parents give me lots of chances to do fun things with them
   NO!  no  yes  YES!

k. My parents ask me what I think before most family decisions affecting me are made
   NO!  no  yes  YES!

l. If I had a personal problem I could ask my Mum or Dad for help
   NO!  no  yes  YES!

4.2 a. If you drank some beer, wine, alcoholic soda (e.g. Subzero) or spirits without your parents’ permission, would you be caught by your parents? (Please choose one)
   NO!  no  yes  YES!

b. If you wagged school would you be caught by your parents?
   NO!  no  yes  YES!

c. If you carried a weapon without your parents’ permission, would you be caught by your parents?
   NO!  no  yes  YES!
4.3 How much do you agree with the following statements?

<table>
<thead>
<tr>
<th>Disagree</th>
<th>Unsure</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I get into a lot of conflict with my parents.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. I would like to move out of home soon.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. I feel happy at home.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.4 c. Have you run away from home in the past 12 months?
- YES
- NO

4.5 Do you feel safe at home?
- YES
- NO

4.6 a. In the last year (12 months), have you experienced an adult in the home using physical violence against you?
- Never
- Rarely
- Sometimes
- Often
- Very Often

4.7 a. Do you feel very close to your mother?
- NO
- NO
- YES
- YES!

b. Do you enjoy spending time with your mother?
- NO
- NO
- YES
- YES!

c. Do you share your thoughts and feelings with your mother?
- NO
- NO
- YES
- YES!

d. Do you feel very close to your father?
- NO
- NO
- YES
- YES!

e. Do you enjoy spending time with your father?
- NO
- NO
- YES
- YES!

f. Do you share your thoughts and feelings with your father?
- NO
- NO
- YES
- YES!

4.8 How often do you do something together with your family at home e.g. have a meal, play a game?
- Rarely
- Sometimes
- Often
- Very often
- My family doesn’t do anything together

4.9 How often do you get together with your family to go out e.g. go to the movies, go shopping?
- Rarely
- Sometimes
- Often
- Very often
- My family doesn’t do anything together

4.10 a. How often do your parents tell you they’re proud of you for something you’ve done?
- Never or almost never
- Sometimes
- Often
- All the time

b. My parents notice when I am doing something well and let me know about it
- Never or almost never
- Sometimes
- Often
- All the time

4.11 Have any of your brothers or sisters ever done any of the following? (Please choose ONE answer in each row)

- YES
- NO

a. Drunk beer, wine, alcoholic soda or spirits?

b. Used marijuana?

c. Smoked cigarettes?

I don’t have any brothers or sisters

4.12 Has anyone in your family ever had a severe alcohol or drug problem?
- YES
- NO
# About smoking, drinking and drugs

## 6.2 How easy would it be for you to get any of the following: *(Please choose ONE answer in each row)*

<table>
<thead>
<tr>
<th></th>
<th>Very hard</th>
<th>Sort of hard</th>
<th>Sort of easy</th>
<th>Very easy</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Beer, wine, alcoholic soda or spirits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Cigarettes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Marijuana</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. A drug like Ecstasy, LSD or speed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Heroin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## 6.3 a. Does your mother smoke?

- Never
- Occasionally
- Most days
- Every day
- Ex-smoker

b. Does your father smoke?

- Never
- Occasionally
- Most days
- Every day
- Ex-smoker

c. Does your mother drink alcohol?

- Never
- Occasionally
- Most days
- Every day

d. Does your father drink alcohol?

- Never
- Occasionally
- Most days
- Every day

## 6.4 a. Have you ever smoked cigarettes?

- Never
- Once or twice
- Once in a while but not regularly
- Regularly in the past
- Regularly now

b. How old were you when you first smoked a cigarette, even just a puff?

- 10 or younger
- 11
- 12
- 13
- 14
- 15
- 16
- 17 or older

c. During the past 30 days, have you smoked cigarettes?

- No
- Yes, less than one a week
- Yes, 1-5 a day
- Yes, 11-19 a day

## 6.5 a. In your lifetime, have you ever drunk alcohol (more than just a few sips)?

- No
- Yes, 1-2 times
- Yes, 3-5 times
- Yes, 10-19 times
- Yes, 20-39 times
- Yes, 40 or more times

b. How old were you when you first drank alcohol (more than a sip or two)?

- 10 or younger
- 11
- 12
- 13
- 14
- 15
- 16
- 17 or older
6.6 a. In your lifetime, have you ever drunk alcohol regularly (i.e., at least once a month) or twice a month?
   No
   Yes — How old were you when you first did?
   10 or younger 11 12 13 14 15 16 294 17 or older

6.7 a. In your lifetime, have you ever got drunk?
   No
   Yes — How old were you when you first did?
   10 or younger 11 12 13 14 15 16 17 or older

6.8 During the past 30 days, have you had any beer, wine, alcoholic soda or spirits?
   No
   Yes, 1-2 times
   Yes, 3-5 times
   Yes, 10-19 times
   Yes, 20-39 times
   Yes, 40 or more times

   Go to 6.13

6.9 Think back over the last 2 weeks. Have you had five or more alcoholic drinks in a row?
   No
   Yes, once
   Yes, 2-9 times
   Yes, 10-19 times
   Yes, 20-39 times
   Yes, 40 or more times

6.10 During the last 7 days, have you had an alcoholic drink at any of these places?
   a. At home
   b. At a friend’s or relation’s home
   c. At a pub, club, party or rave
   d. Outside in a public place (street, park, etc.)

   YES NO

6.13 In your lifetime, have you used any of the following? (Please choose one in each row)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Never</th>
<th>1-2 times</th>
<th>3-5 times</th>
<th>6-9 times</th>
<th>10-19 times</th>
<th>20-39 times</th>
<th>40 or more times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marijuana (dope, mull, pot, hash, grass)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecstasy/LSD or other hallucinogens (MDMA, XTC, E, Doves, acid, trips)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solvents to get high (glue, gas refills, cleaning fluid, petrol)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amphetamines (speed, salphathes, whizz, uppers, fast)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Derbisol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocaine (snow, ‘coke’) or crack (rock)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heroin (H, junk, smack, hammer)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleeping tablets/tranquilisers (Valium, temazepam) without a doctor’s prescription</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pain killers (NOT for medical reasons)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any other illegal drugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.14 In the last 30 days, have you used any of the following? (Please choose one in each row)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Never</th>
<th>1-2 times</th>
<th>3-5 times</th>
<th>6-9 times</th>
<th>10-19 times</th>
<th>20-39 times</th>
<th>40 or more times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marijuana</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecstasy/LSD or other hallucinogens</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solvents to get high</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amphetamines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Derbisol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocaine or crack</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heroin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleeping tablets/tranquilisers without a doctor’s prescription</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pain killers (NOT for medical reasons)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any other illegal drugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix C Study 2: SEM Unstandardised Solution

Figure 12. Structural model of rules, supervision, conflict, and problem behaviour, unstandardised solution.
Appendix D Study 3: Monitoring Questionnaire

Think back over the last two weeks at home. Read the statement and choose the answer that is closer to what you believe is true for you.

Does your parent say what time you must be home?  
- Never
- Rarely
- Sometimes
- Mostly
- Always

My parent lets me go any place I please?  
- Never
- Rarely
- Sometimes
- Mostly
- Always

If I’m going to be late I need to contact my parent  
- Never
- Rarely
- Sometimes
- Mostly
- Always

Do you go places without telling your parent exactly where you are?  
- Never
- Rarely
- Sometimes
- Mostly
- Always

How often does your parent know where you are on the weekend?  
- Never
- Rarely
- Sometimes
- Mostly
- Always

Is it important for your parent to know where you are all the time?  
- Never
- Rarely
- Sometimes
- Mostly
- Always

Do you talk to your parent about what you have been doing?  
- Never
- Rarely
- Sometimes
- Mostly
- Always

Do you do things that your parent doesn’t approve of?  
- Never
- Rarely
- Sometimes
- Mostly
- Always

When you come home, does your parent ask you questions about what you have been doing?  
- Never
- Rarely
- Sometimes
- Mostly
- Always

Does your parent try to find out what you have been doing from other people?  
- Never
- Rarely
- Sometimes
- Mostly
- Always

Would you be in trouble if you came home 1 hour late?  
- Never
- Rarely
- Sometimes
- Mostly
- Always
Does your parent allow you to go on a date? Does your parent allow you to drink alcohol?
☑ Yes, ☐ No, ☐ No, but I do it anyway
☐ Yes, ☐ No, ☐ No, but I do it anyway

Does your parent allow you to smoke cigarettes?
☐ Yes, ☐ No, ☐ No, but I do it anyway
☐ Yes, ☐ No, ☐ No, but I do it anyway

Are there kids you are not allowed to hang around with?
☐ Yes, ☐ No, ☐ No, but I do it anyway

The final questions tell us about you and your family.

How old are you?
☐ 11 or younger ☐ 15
☐ 12 ☐ 16
☐ 13 ☐ 17
☐ 14 ☐ 18 or older

What is your date of birth: ……./……../…….. (Day/Month/Year)

What year are you in at school?
☐ Year 7 ☐ Year 10
☐ Year 8 ☐ Year 11
☐ Year 9 ☐ Year 12

Are you male or female?
☐ Male ☐ Female

What is the postcode of your home address? ☐ ☐ ☐ ☐

Were you born in Australia?
☐ Yes
☐ No………………If not, in which country were you born?________________________________

Was your mother born in Australia?
☐ Yes
☐ No………………If not, in which country was she born?________________________________

Was your father born in Australia?
☐ Yes
☐ No………………If not, in which country was he born? _____________________________
Are your parents?
- Living together
- Separated or divorced
- One or both have died
- Never lived together
- Something else

Is your mother in paid work?
- No, not working
- Yes, full-time
- Yes part-time or casual
- No, retired

Is your father in paid work?
- No, not working
- Yes, full-time
- Yes part-time or casual
- No, retired

What is your mother’s highest level of education?
- Didn’t complete high school
- Completed high school
- TAFE college or trade
- University degree
- I don’t know

What is your father’s highest level of education?
- Didn’t complete high school
- Completed high school
- TAFE college or trade
- University degree
- I don’t know

Do you have a mobile phone?
- Yes
- No

Thank you for taking the time to complete this survey. Your help in this project is appreciated.
Appendix E Study 3: Conflict Behavior Questionnaire
(Prinz, Foster, Kent & O’Leary, 1979)

Think back over the last two weeks at home. The statements below have to do with you and your parents or carer. Read the statement and decide if you believe it is true, then circle true. If you believe it is false then circle false. Please answer all items. Your answers will not be shown to you parents.

<table>
<thead>
<tr>
<th>Statement</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>My parent doesn't understand me</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My parent and I sometimes end our arguments calmly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>We almost never seem to agree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I enjoy the talks we have</td>
<td></td>
<td></td>
</tr>
<tr>
<td>When I state my opinion, my parent gets upset</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At least three times a week we get angry at each other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My parent listens when I need someone to talk to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My parent is a good friend to me</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My parent says I have no consideration for her/him</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My parent understands me</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At least once a day, we get angry at each other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My parent is bossy when we talk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The talks we have are frustrating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My parent understands my point of view even when she/he doesn't agree with me</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My parent seems to be always complaining about me</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I enjoy spending time with my parent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In general, I don't think we get along very well</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My parent screams at me a lot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My parent puts me down</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If I run into problems, my parent helps me out</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
 Appendix F Study 3: Internet Site

Shown on the following two pages is a copy of the web images used for the Internet based survey from Study 3. A full transcript from the introductory text pages and informed consent page is shown after each screen image.

Welcome to the SpeakOut project!

- Are you a parent? Do you worry about how your teenager spends their free time?
- Or, are you a teenager who likes to spend some free time with friends?

If you answered yes to either of these questions then you can help with the SpeakOut project!!

What is this survey all about?

- It is a web site survey created by Louise Hayes, a Doctor of Philosophy student at RMIT University, and a Probationary Psychologist registered with the Psychologists Registration Board of Victoria. The project is titled: Teenager & Parent Views On Communication. The survey asks questions about independence, decision making, and communication with parents.

What will you be asked to do?

- Teenagers and parents are asked to volunteer to participate by completing a short questionnaire. To participate in this project teenagers MUST have parental consent.

What happens to the information?

- The name and address of the participant will not be used in any publication of the results or web site.

Welcome to the SpeakOut project!
What is this survey all about?

- It is a web site survey created by Louise Hayes, a Doctor of Philosophy student at RMIT University, and a Probationary Psychologist registered with the Psychologists Registration Board of Victoria. The project is titled: Teenager & Parent Views On Communication. The survey asks questions about independence, decision making, and communication with parents.

What will you be asked to do?

- Teenagers and parents are asked to volunteer to participate by completing a short questionnaire. To participate in this project teenagers MUST have parental consent.

What happens to the information?

- It is anonymous and confidential. We do not collect your name, address or identifying information.
- The researcher and research supervisors are the only people with access to the raw data. The final report will provide useful information for professionals who are working with families. The results may also appear in research publications.

Can I get more information?

- If you have any concerns you may contact me at RMIT University - Louise Hayes (03) 9925 7376, or speakout@rmit.edu.au. You may also contact the project supervisors - Professor Alan Hudson or Jan Matthews from RMIT University on 9925 7360.

Thank you for participating, please click start to begin,

Louise Hayes, BA, BAppSci(Hons)(Psych)

Professor Alan Hudson, BSc, DipEd, MEd, PhD, M.A.P.S

Jan Matthews, BA, DipEd, GradDipAppChPsych, MEd, M.A.P.S

University Logo

This is a RMIT University Postgraduate Research Project approved by the Human Research Ethics Committee. Any queries or complaints about your participation in this project may be directed to the Secretary, RMIT Human Research Ethics Committee, University Secretariat, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is (03) 9925 1745.
Consent to participate in this survey....

1. I have read the statement explaining the project on the HOME page.
2. I consent to participate in this project.
3. I acknowledge that -
   a. After reading the HOME page I agree that I am being asked to complete a survey and submit my answers to RMIT.
   b. I understand I am free to withdraw from the survey at any time.
   c. The survey is for research. It may not benefit me directly.
   d. The confidentiality of the information I provide will be safeguarded. No identifying data is collected.
   e. The security of the research data is assured during and after the study. The data collected may be published in a report.
4. If you are under 18 years you must ask a parent to read the above and provide their consent before continuing.

Having read the above statements do you consent to participate in this survey?
• YES  NO

As a parent or guardian of the participant, do you agree to allow your teenager to participate in this survey?
• YES  NO
WHO IS CONDUCTING THE RESEARCH:
Louise Hayes, a Doctor of Philosophy student at RMIT University, and a Psychologist (Probationary) registered with the Psychologists Registration Board of Victoria.

WHY:
Studying teenagers’ and parents’ views on how teenagers spend their free time. The aim is to find out about family communication, and how this influences what teenagers do. I am trying to understand more about how families differ in attitude toward teenage independence.

WHAT IS REQUIRED:
I am asking parents and students to volunteer to participate by completing a short questionnaire. This is about 40 multiple choice questions and will take only a few minutes.

Students will be asked to complete the questionnaire via the Internet. This can be on the school computers or at home, and the information is sent to the RMIT secure server. Students do not provide their names or contact details. Some examples of the questions are:
1. If I’m going to be late I need to contact my parents.
2. Do you talk with your parents about what you have been doing?
Parents will also be asked to complete a similar questionnaire in printed format. This will be sent to you in the past and returned via a postage paid envelope to RMIT.

IS THE INFORMATION ANONYMOUS & CONFIDENTIAL?
YES. There are no names or contact details collected. Student and parent responses will be matched by postcode and birthdate only. Your school is not provided with any details and no copies are kept.

WHAT HAPPENS TO THE INFORMATION?
My supervisors and I are the only people with access to the raw data. Your information will be used to get a 'big picture' on the views of many parents and teenagers. The final report will provide useful information for professionals who are working with families. The results may also appear in research publications. You will be able to get a summary report from the school office.

NEED TO KNOW MORE?
Professor Alan Hudson from RMIT University will supervise this project. Please call me on 9925 7376, or Alan Hudson on 9925 7360, if you have any questions or concerns at any time.

Your involvement in this project is appreciated. Attached to this letter is a Statement of Informed Consent for you and your teenager to be involved. To participate in this project please sign the attached form and return it to the school office.

Yours Sincerely,

Louise Hayes
BA, BAppSci(Hons)(Psych)

Prof. Alan Hudson
BSc, DipEd, MEd, PhD.
RMIT CONSENT FORM
DEPARTMENT OF PSYCHOLOGY & DISABILITY STUDIES
FACULTY OF APPLIED SCIENCE

Project Title: Teenager & Parent Views On Communication and Free-time

Name of investigator(s): Louise Hayes Phone (03) 9925 7376

1. I have received a statement explaining the interview/questionnaire involved in this project.
2. I consent to participate in the above project, the particulars of which - including details of the interviews or questionnaires - have been explained to me.
3. I authorise the investigator or his or her assistant to interview me or administer a questionnaire.
4. I acknowledge that:
   (a) Having read Plain Language Statement, I agree to the general purpose, methods and demands of the study.
   (b) I have been informed that I am free to withdraw from the project at any time and to withdraw any unprocessed data previously supplied.
   (c) The project is for the purpose of research and/or teaching. It may not be of direct benefit to me.
   (d) The confidentiality of the information I provide will be safeguarded. However should information of a confidential nature need to be disclosed for moral, clinical or legal reasons, I will be given an opportunity to negotiate the terms of this disclosure.
   (e) The security of the research data is assured during and after completion of the study. The data collected during the study may be published, and a report of the project outcomes will be provided via the school. Any information that will identify me will not be used.

X RETURN THIS SECTION TO SCHOOL X

Name of student participant: ____________________________________________

Name of parent participant: _____________________________________________

STUDENT’S CONSENT
I consent to participate in the study: ________________________________ Date: __________________
(Signature of student)

PARENT’S CONSENT - Where participant is under 18 years of age:
I consent to the participation of ________________________________ in the above project.
Signature: ____________________________________________ Date: __________________
(Signatures of parents or guardians)

Postal Address: __________________________________________________________
___________________________________________ Postcode: __________

Professor Alan Hudson from RMIT University will supervise this project. If you have any queries or concerns at any time contact: Louise Hayes 9925 7376, or Professor Alan Hudson on 9925 7363.

Thank you: Louise Hayes Prof. Alan Hudson
BA, BAppSci(Hons)(Psych) BSc, DipEd, MED, PhD

Any complaints about your participation in this project may be directed to the Secretary, RMIT Human Research Ethics Committee, University Secretariat, RMIT, GPO Box 243, Melbourne, 3001. The telephone number is (03) 9925 7745.

Participants should be given a photocopy of this consent form after it has been signed.
Appendix G Study 3: Comparisons of Adolescent (SR) and Parent (PR) Demographic Data

Table 34

Recruitment Location of Parent (PA) and Adolescent (SR) Participants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Newsletter Response (N = 308)</th>
<th>School Written Response (N = 64)</th>
<th>School Online Response (N = 40)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>% of n</td>
<td>n</td>
</tr>
<tr>
<td>Parent responders (PA)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>134</td>
<td>82.7</td>
<td>43</td>
</tr>
<tr>
<td>Father</td>
<td>17</td>
<td>10.5</td>
<td>5</td>
</tr>
<tr>
<td>Stepmother</td>
<td>2</td>
<td>1.2</td>
<td>2</td>
</tr>
<tr>
<td>Stepmother</td>
<td>7</td>
<td>4.3</td>
<td>1</td>
</tr>
<tr>
<td>Total (% of N)</td>
<td>162</td>
<td>77.1</td>
<td>48</td>
</tr>
<tr>
<td>Adolescents (SR) Responding about their:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>118</td>
<td>80.8</td>
<td>11</td>
</tr>
<tr>
<td>Father</td>
<td>22</td>
<td>15.1</td>
<td>3</td>
</tr>
<tr>
<td>Stepmother</td>
<td>1</td>
<td>.7</td>
<td>1</td>
</tr>
<tr>
<td>Foster Parent</td>
<td>1</td>
<td>.7</td>
<td>1</td>
</tr>
<tr>
<td>Grand Parent</td>
<td>1</td>
<td>.7</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>1.4</td>
<td>1</td>
</tr>
<tr>
<td>Total (% of N)</td>
<td>146</td>
<td>72.3</td>
<td>16</td>
</tr>
</tbody>
</table>
Table 35

Demographic Characteristics for Parent (PA) and Adolescent (SR) by Recruitment Location

<table>
<thead>
<tr>
<th>Variable</th>
<th>Recruited In Schools (N = 104)</th>
<th>Recruited in Newsletters (N = 308)</th>
<th>Group comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of Adolescent (M, SD)</td>
<td>14.57 (1.20)</td>
<td>15.28 (1.81)</td>
<td>p &lt; .001&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Age Range in Years (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 years</td>
<td>1 (1.0)</td>
<td>13 (4.2)</td>
<td></td>
</tr>
<tr>
<td>12 years</td>
<td>3 (2.9)</td>
<td>8 (2.6)</td>
<td></td>
</tr>
<tr>
<td>13 years</td>
<td>13 (12.5)</td>
<td>36 (11.7)</td>
<td></td>
</tr>
<tr>
<td>14 years</td>
<td>29 (27.9)</td>
<td>34 (11.1)</td>
<td></td>
</tr>
<tr>
<td>15 years</td>
<td>44 (42.3)</td>
<td>67 (21.8)</td>
<td></td>
</tr>
<tr>
<td>16 years</td>
<td>6 (5.8)</td>
<td>56 (18.2)</td>
<td></td>
</tr>
<tr>
<td>17 years</td>
<td>6 (5.8)</td>
<td>65 (21.2)</td>
<td></td>
</tr>
<tr>
<td>18 years or older</td>
<td>2 (1.9)</td>
<td>28 (9.1)</td>
<td></td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>104 (100.0)</td>
<td>307 (99.7)</td>
<td></td>
</tr>
<tr>
<td>Sex of Adolescents (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>61 (59.8)</td>
<td>200 (65.6)</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>41 (40.2)</td>
<td>105 (34.4)</td>
<td></td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>102 (98.1)</td>
<td>305 (99.0)</td>
<td>ns&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Adol. Birth Country (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Australian born</td>
<td>100 (97.1)</td>
<td>232 (77.3)</td>
<td></td>
</tr>
<tr>
<td>- Overseas born</td>
<td>3 (2.9)</td>
<td>68 (22.7)</td>
<td></td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>103 (99.0)</td>
<td>300 (97.4)</td>
<td>p &lt; .001&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Note: 

<sup>a</sup> denotes t test for analysis of mean differences
<sup>b</sup> denotes chi square analysis of group differences

Adjusted alpha of .017
Table 36

Demographic Characteristics of Parents, for Parent (PA) and Adolescent (SR) by Recruitment Location

<table>
<thead>
<tr>
<th>Variable</th>
<th>Recruited In Schools (N = 104)</th>
<th>Recruited in Newsletters (N = 308)</th>
<th>Group comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>% of n</td>
<td>n</td>
</tr>
<tr>
<td>Mother’s Birth Country (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Australian born</td>
<td>83</td>
<td>84.7</td>
<td>181</td>
</tr>
<tr>
<td>- Overseas born</td>
<td>15</td>
<td>15.3</td>
<td>94</td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>98</td>
<td>94.2</td>
<td>275</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>p &lt; .001 b</td>
</tr>
<tr>
<td>Father’s Birth Country (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Australian born</td>
<td>50</td>
<td>83.3</td>
<td>95</td>
</tr>
<tr>
<td>- Overseas born</td>
<td>10</td>
<td>16.7</td>
<td>65</td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>60</td>
<td>57.7</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>p &lt; .001 b</td>
</tr>
<tr>
<td>Parental Living Arrangements (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother and father living together</td>
<td>72</td>
<td>69.9</td>
<td>189</td>
</tr>
<tr>
<td>Separated or divorced</td>
<td>25</td>
<td>24.3</td>
<td>79</td>
</tr>
<tr>
<td>One or Both Died</td>
<td>2</td>
<td>1.9</td>
<td>6</td>
</tr>
<tr>
<td>Never lived together</td>
<td>1</td>
<td>1.0</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>2.9</td>
<td>14</td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>103</td>
<td>99.0</td>
<td>295</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ns b</td>
</tr>
</tbody>
</table>

Note: b denotes chi square analysis of group differences
Adjusted alpha of .007
### Table 37

Demographic Characteristics of Parents, for Parent (PA) and Adolescent (SR) by Recruitment Location

<table>
<thead>
<tr>
<th>Variable</th>
<th>Recruited in Schools (N = 104)</th>
<th>Recruited in Newsletters (N = 308)</th>
<th>Group comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>% of n</td>
<td>n</td>
</tr>
<tr>
<td>Mother's Education (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Didn't complete high school</td>
<td>37</td>
<td>37.8</td>
<td>48</td>
</tr>
<tr>
<td>High school level</td>
<td>26</td>
<td>26.5</td>
<td>69</td>
</tr>
<tr>
<td>TAFE or Trade school</td>
<td>13</td>
<td>13.3</td>
<td>51</td>
</tr>
<tr>
<td>University</td>
<td>6</td>
<td>6.1</td>
<td>95</td>
</tr>
<tr>
<td>Don't Know</td>
<td>16</td>
<td>16.3</td>
<td>19</td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>98</td>
<td>94.2</td>
<td>282</td>
</tr>
<tr>
<td>Father's Education (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Didn't complete high school</td>
<td>22</td>
<td>36.7</td>
<td>39</td>
</tr>
<tr>
<td>High school level</td>
<td>11</td>
<td>18.3</td>
<td>26</td>
</tr>
<tr>
<td>TAFE or Trade school</td>
<td>7</td>
<td>11.7</td>
<td>26</td>
</tr>
<tr>
<td>University</td>
<td>3</td>
<td>5.0</td>
<td>51</td>
</tr>
<tr>
<td>Don't Know</td>
<td>17</td>
<td>28.3</td>
<td>15</td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>60</td>
<td>57.7</td>
<td>157</td>
</tr>
<tr>
<td>Mother's Employment (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full time</td>
<td>27</td>
<td>27.6</td>
<td>110</td>
</tr>
<tr>
<td>Part time</td>
<td>34</td>
<td>34.7</td>
<td>99</td>
</tr>
<tr>
<td>Not working</td>
<td>37</td>
<td>37.8</td>
<td>73</td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>98</td>
<td>94.2</td>
<td>282</td>
</tr>
<tr>
<td>Father's Employment (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full time</td>
<td>37</td>
<td>66.1</td>
<td>124</td>
</tr>
<tr>
<td>Part time</td>
<td>7</td>
<td>12.5</td>
<td>20</td>
</tr>
<tr>
<td>Not working</td>
<td>12</td>
<td>21.4</td>
<td>10</td>
</tr>
<tr>
<td>Total Group (% of N)</td>
<td>56</td>
<td>53.8</td>
<td>154</td>
</tr>
</tbody>
</table>

Note: b denotes chi square analysis of group differences
Adjusted alpha of .007
Appendix H Study 3: Correlations of Final Factor Model for Adolescent and Parent Responders

Table 38

Correlations of Final Factor Model for SR Adolescent and PR Parent Responders

<table>
<thead>
<tr>
<th></th>
<th>Rules Setting</th>
<th>Tracking</th>
<th>M7 Disclosure</th>
<th>M9 Solicitation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parents</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rule Setting</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tracking</td>
<td>0.20**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M7 - Disclosure</td>
<td>0.22**</td>
<td>0.18**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>M9 - Solicitation</td>
<td>0.25**</td>
<td>0.17*</td>
<td>0.48**</td>
<td>1.00</td>
</tr>
<tr>
<td>Conflict</td>
<td>0.04</td>
<td>-0.53**</td>
<td>-0.30**</td>
<td>-0.14*</td>
</tr>
</tbody>
</table>

| **Adolescents**|               |           |               |                 |
| Rule Setting   | 1.00          | 1.00      |               |                 |
| Tracking       | 0.25**        | 1.00      |               |                 |
| M7 - Disclosure| 0.16*         | 0.39**    | 1.00          |                 |
| M9 - Solicitation| 0.34**       | -0.04     | 0.18*         | 1.00            |
| Conflict       | 0.02          | -0.40**   | -0.40**       | 0.13            |

Note:  ** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
## Appendix I Study 3: Sample Correlations of Monitoring Variables

### Table 39

**Correlations of Monitoring Variables Used For Factor Analysis**

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>M6</th>
<th>M7</th>
<th>M8</th>
<th>M9</th>
<th>M10</th>
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</thead>
<tbody>
<tr>
<td>M1</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M2</td>
<td>0.33 **</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M3</td>
<td>0.50 **</td>
<td>0.25 **</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M4</td>
<td>0.17 **</td>
<td>0.27 **</td>
<td>0.28 **</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M5</td>
<td>0.20 **</td>
<td>0.17 **</td>
<td>0.34 **</td>
<td>0.60 **</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M6</td>
<td>0.42 **</td>
<td>0.33 **</td>
<td>0.49 **</td>
<td>0.36 **</td>
<td>0.41 **</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M7</td>
<td>0.23 **</td>
<td>0.10 *</td>
<td>0.32 **</td>
<td>0.35 **</td>
<td>0.36 **</td>
<td>0.39 **</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M8</td>
<td>-0.02</td>
<td>0.06</td>
<td>0.06</td>
<td>0.47 **</td>
<td>0.31 **</td>
<td>0.09</td>
<td>0.25 **</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M9</td>
<td>0.36 **</td>
<td>0.19 **</td>
<td>0.34 **</td>
<td>0.16 **</td>
<td>0.20 **</td>
<td>0.33 **</td>
<td>0.43 **</td>
<td>-0.02</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>M10</td>
<td>-0.15 **</td>
<td>-0.03</td>
<td>-0.03</td>
<td>0.26 **</td>
<td>0.15 **</td>
<td>-0.07</td>
<td>0.04</td>
<td>0.32 **</td>
<td>-0.20 **</td>
<td>1.00</td>
</tr>
<tr>
<td>M11</td>
<td>0.42 **</td>
<td>0.36 **</td>
<td>0.40 **</td>
<td>0.15 **</td>
<td>0.20 **</td>
<td>0.36 **</td>
<td>0.08</td>
<td>-0.03</td>
<td>0.21 **</td>
<td>-0.22 **</td>
</tr>
</tbody>
</table>

Note: ** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).
Appendix J Study 3: Unstandardised Estimates from Base Model

Figure 13. Unstandardised solution for base model with parents and adolescent samples combined.
Appendix K Study 3: Unstandardised Estimates for Final Model

Figure 14. Unstandardised estimate for final parent and adolescent models
PLAIN LANGUAGE STATEMENT, July, 2003

PROJECT TITLE:
Problem solving and communication training for families with adolescents.

WHO IS CONDUCTING THE PROGRAM:
Louise Hayes, a Doctor of Philosophy student at RMIT University, Department of Psychology and Disability Studies, and a Psychologist (Probationary) registered with the Psychologists Registration Board of Victoria.

WHY:
The aim of this program is to help families work through problems they may be having with communication, problem solving and teenage issues.

WHAT IS EXPECTED OF YOU?
I am asking parents and their teenagers to volunteer to participate in approximately 4 to 6 family therapy sessions in the Psychology Clinic at RMIT University. The sessions will be approximately 60 minutes long. Sessions will include problem solving strategies, improving communication, and working through any problems specific to your family.

Families will be requested to undertake tasks at home and complete logbooks of family interactions. Your participation in these sessions is voluntary and there is no charge for the sessions. You are free to withdraw at any time.

IS THE INFORMATION ANONYMOUS & CONFIDENTIAL?
YES. Information shared with a psychologist is confidential. The only persons who have access to this information are Louise Hayes and her supervisor, Professor Alan Hudson.

Client files are kept in locked storage at RMIT University. The client files will be kept for a period of 5 years. You will be able to contact the RMIT University Psychology Clinic if you require access to information about this treatment in the future.

There are only two instances where client/psychologist confidentiality is limited; that is where there is likely to be some serious harm to any member of your family or another individual, or if unlawful acts are being carried out. In these instances, the matter will be discussed with you, and if disclosure is necessary you will be given an opportunity to negotiate the terms.

WHAT HAPPENS TO THE INFORMATION?
The case study data collected will have names and all identifying information removed. The only people with access to the client files are Louise Hayes and Professor Alan Hudson. Your information will be used to provide case study analysis on family functioning and the benefits of psychological intervention. The final report will provide useful information for professionals who are working with families. The results may also appear in research publications. You will be provided with feedback at the end of the clinic sessions.
NEED TO KNOW MORE?
Professor Alan Hudson and Jan Matthews from RMIT University will supervise this project. Please call me on 9925 7376, or Alan Hudson on 9925 7360, if you have any questions or concerns at any time.

Your involvement in this project is appreciated. Attached to this letter is a Statement of Informed Consent for you and your teenager to be involved. To participate in this project please sign the attached form and return Louise Hayes.

Yours Sincerely,

Louise Hayes
BA, BAppSci(Hons)(Psych)
Prof. Alan Hudson
BSc, DipEd, MEd, PhD

Any queries or complaints about your participation in this project may be directed to the Secretary, RMIT Human Research Ethics Committee, University Secretariat, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is (03) 9925 1745.
RMIT HUMAN RESEARCH ETHICS COMMITTEE

Prescribed Consent Form For Persons Participating In Research Projects Involving
Interviews, Questionnaires or Disclosure of Personal Information

FACULTY OF
Applied Science
DEPARTMENT OF
Psychology and Disability Studies
Name of participant:
Project Title:
Problem solving and communication training for families
with adolescents

Name(s) of investigators: (1) Louise Hayes Phone: 9925 7276
(2) Alan Hudson Phone: 9925 7360

1. I have received a statement explaining the interview/questionnaire involved in this project.

2. I consent to participate in the above project, the particulars of which - including details of the
interviewers or questionnaires - have been explained to me.

3. I authorise the investigator or his or her assistant to interview me or administer a questionnaire.

4. I acknowledge that:

(a) Having read Plain Language Statement, I agree to the general purpose, methods and
demands of the study.

(b) I have been informed that I am free to withdraw from the project at any time and to
withdraw any unprocessed data previously supplied.

(c) The project is for the purpose of research and/or teaching. It may not be of direct
benefit to me.

(d) The privacy of the information I provide will be safeguarded. However should
information of a private nature need to be disclosed for moral, clinical or legal
reasons, I will be given an opportunity to negotiate the terms of this disclosure.

(e) The security of the research data is assured during and after completion of the study.
The data collected during the study may be published, and a report of the project
outcomes will be provided to ______________ [researcher to specify]. Any
information which will identify me will not be used.

Participant’s Consent

Name: ___________________________ Date: ___________________________

(Participant)

Name: ___________________________ Date: ___________________________

(Witness to signature)

Where participant is under 18 years of age:

I consent to the participation of ___________________________ in the above
project.

Signatures: (1) ___________________________ Date: ___________________________

(Signatures of parents or guardians)

Name: ___________________________ Date: ___________________________

(Witness to signature)

Participants should be given a photocopy of this consent form after it has been signed.

Any complaints about your participation in the project may be directed to the Secretary, RMIT Human Research Ethics
Committee, University Societies, RMIT, GPO Box 247NY, Melbourne, 3001. The telephone number is (03) 9925 7745.
Details of the complaints procedure are available from the above address.
### ISSUES CHECKLIST FOR PARENTS AND TEENAGERS

Name: ___________________________  Date: __________

- □ Adolescent with □ Adolescent
- □ Mother with □ Mother
- □ Father with □ Father

Below is a list of things that sometimes get talked about at home. We would like you to look carefully at each topic on the left-hand side of the page and decide whether the two of you together have talked about that topic at all during the last 2 weeks.

- If the two of you together have discussed it during the last 2 weeks, circle Yes to the right of the topic.
- If the two of you together have not discussed it during the last 2 weeks, circle No to the right of the topic.

Now, we would like you to go back over the list of topics. For those topics for which you circled Yes, please answer the two questions on the right-hand side of the page.

1. How many times during the last 2 weeks did the topic come up?
2. How hot are the discussions?

Go down this column for all pages first. Then go down these columns for all pages.

<table>
<thead>
<tr>
<th>Topic</th>
<th>How many times?</th>
<th>Calm</th>
<th>A little angry</th>
<th>Angry</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Telephone calls</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Time for going to bed</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Cleaning up bedroom</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Doing homework</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Putting away clothes</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Using the television</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adapted from: Negotiating Parent-Adolescent Conflict: A Behavioral-Family Systems Approach by Arthur L. Robin and Sharon L. Foster. Copyright 1989 by The Guilford Press. Reprinted in Attention-Deficit Hyperactivity Disorder: A Clinical Workbook (2nd ed.) by Russell A. Barkley and Kevin R. Murphy. Permission to photocopy this form is granted to purchasers of the Workbook for personal use only (see copyright page for details).
<table>
<thead>
<tr>
<th>Topic</th>
<th>How many times?</th>
<th>Calm</th>
<th>A little angry</th>
<th>Angry</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Cleanliness (washing, showers, brushing teeth)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Which clothes to wear</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. How neat clothing looks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Making too much noise at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Table manners</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Fighting with brothers or sisters</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Cursing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. How money is spent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Picking books or movies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Allowance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Going places without parents</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Playing stereo or radio too loudly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Turning off lights in house</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Drugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Taking care of records, games, toys, and things</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Drinking beer or other liquor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Buying records, games, toys, and things</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. Going on dates</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Who should be friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. Selecting new clothing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. Coming home on time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. Getting to school on time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. Getting low grades in school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. Getting in trouble in school</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

(Cont.)
<table>
<thead>
<tr>
<th>Topic</th>
<th>How many times?</th>
<th>Calm</th>
<th>A little angry</th>
<th>Angry</th>
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</thead>
<tbody>
<tr>
<td>32. Lying</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. Helping out around the house</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
<td></td>
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<tr>
<td>34. Talking back to parents</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35. Getting up in the morning</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
<td></td>
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<tr>
<td>36. Bothering parents when they want to be left alone</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37. Bothering teenager when he/she wants to be left alone</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
<td></td>
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<tr>
<td>38. Putting feet on furniture</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
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<tr>
<td>39. Messing up the house</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
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<tr>
<td>40. What time to have meals</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
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<td>41. How to spend free time</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
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<td>42. Smoking</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
<td></td>
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<td>43. Earning money away from house</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
<td></td>
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<tr>
<td>44. What teenager eats</td>
<td>Yes</td>
<td>1 2 3 4 5</td>
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</table>

Check to see that you circled Yes or No for every topic. Then tell the interviewer you are finished.
Appendix L: Study 4: Daily Record of Pleasant and Unpleasant Events

Week of:

Parent & Teen Log

<table>
<thead>
<tr>
<th>Day</th>
<th>Tally</th>
<th>Total</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

Record the number of pleasant or unpleasant discussions you have each day that relate to free-time, independence, or out of the home activities.

Record a tick for pleasant or good, and a circle for unpleasant or not good.