‘The whole is greater than the Sum of its parts’: What Principles of Systems Theory can teach us about Child Development.

Name: Jamie Sims

ID: 4123701

Supervisor: Dr David Clarke

Word Count: 3999
# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td><strong>Family Systems Theory</strong></td>
<td>3</td>
</tr>
<tr>
<td>- Wholeness &amp; Order Traits of the family system</td>
<td>3</td>
</tr>
<tr>
<td>- Self-Organization and Self Adaptation Traits of the Family System</td>
<td>4</td>
</tr>
<tr>
<td><strong>Community Psychology Theory</strong></td>
<td>5</td>
</tr>
<tr>
<td>- A Core Principle of Community Psychology – Multiple Levels of Intervention and early intervention in Child development</td>
<td>6</td>
</tr>
<tr>
<td>- Community Psychology Theory &amp; The Early Childhood Environment</td>
<td>7</td>
</tr>
<tr>
<td>- Childhood Divorce Interventions</td>
<td>8</td>
</tr>
<tr>
<td>- Interventions in Education</td>
<td>8</td>
</tr>
<tr>
<td>Conclusions</td>
<td>8</td>
</tr>
<tr>
<td>References</td>
<td>9</td>
</tr>
</tbody>
</table>
**Introduction: General Systems Theory**

General Systems Theory was first developed by Ludwig Von Bertalanffy (1968). Bertalanffy posited that applying principles common to all systems could consolidate any field of science. There are 4 principles common to any system: a system is assembled of components that fit together in an organised way, the assembly is identified for a particular purpose with different components making up different systems dependant on purpose, these components are arranged in such a manner that if one were removed or altered the behaviour / functioning of the system as a whole would be changed as well as the component itself. Finally systems typically stay the same and maintain a state of ‘homeostasis’ despite changing conditions outside the system. A systems approach has been used in many areas, from understanding crime to explaining ecosystems.

This paper will argue the metaphor of a system can help us better understand child development. Adopting a holistic systems approach can gain better understanding of child development in the context of a family system and how multiple family relationships interact in shaping the development of a child. Generalising this approach outwards and placing the child in context of a series of ‘nested structures’ or systems gives an increased understanding of child development and will help implement lasting interventions to aid positive child development.

**Family Systems theory:**

Family Systems Theory (FST) looks to apply principles of General Systems Theory to families. Cox & Paley (2003) cite that a family shares 3 similarities with a General System allowing it to be viewed as an ‘organised microsystem’ in its own right. 1) Wholeness and order – the whole is greater than the sum of its parts and has properties that cannot be understood simply from combined characteristics of each part. A family member will have attributes and parts of their character that can only be considered when the person is considered in relation to the family as a whole. 2) Hierarchical structures – Families are made up of subsystems that can be considered systems in themselves, these in turn make up the global system of a family that operates as a hierarchy, with traditionally the father as the head. 3) Adaptive self-organization – Families are open living changing systems that can adapt to change or challenges from outside the system. Sameroff (1983) stresses the importance of this aspect ‘because it points to the need to consider how the family as a system responds to challenges...[and] how each individual or sub system
responds.’ By adopting a holistic systems approach it places increased emphasis on the constant interplay of elements of the system over time i.e. relationships within the family unit. This allows you to not only take into account the effect of one particular dynamic such as a ‘parent-child’ relationship but how this relationship ‘feeds back’ into other elements or relationships within the system such as ‘marital relationships. The next section will examine these similarities in more detail.

**Wholeness and Order trait of the family system:**

Assessing the family system is to not consider the individual relationships in isolation of each other but as an interplay of multiple dynamics allowing research to see separate dynamics are interrelated to each other. This approach has proved fruitful in establishing the interaction between the ‘Parent-child relationship’ dynamic and the ‘marital relationship’ dynamic. Significant evidence suggests they are interrelated and a trend has appeared suggesting that poor child-parent relationships arise within the context of troubled marriages (review article - Cox, Payle & Harter, 2001). The purpose of this essay isn’t to discuss in depth the processes through which inter-parental conflict affect Parent-Child relationships but to highlight that; only by taking a holistic approach where these dynamics are examined in context of each other, that you can really learn the full extent of their nature and thus be able to model the links between the two. These ‘conceptual shifts’ in studying family relationships and interactions are reflected in the work of Cummings and others (e.g. Cummings & Davies, 1995 & Cummings & Wilson, 1999). They reconceptualised the emotional-security hypothesis to move beyond the ‘dyadic focus of attachment theory.’ Cummings emphasises the importance of focusing more on the wider family context, which heavily influences the shaping of children’s emotional security. Cumming’s study highlights the effect that ‘destructive martial conflict’ (conflict between partners that involves violence and continues unresolved) dramatically threatens the child’s ability to feel safe and ‘emotionally secure’ within the home, manifesting itself in stunted child development. This wider perspective also led them to identify emotional security as a centrally important factor in establishing early competence in developing children.

McHale & Rasmussen, (1998) found parental interactions serve as a strong predictor of a child’s adjustment and development. Rating family processes at Time 1 and then again at Time 2 (3 years on) they found several significant relationship between the family processes that were observed at T1 and child / co-parenting behaviour observed at T2. Higher parental discrepancies
observed at T1 predicted greater levels of anxiety in the child at T2. Similarly a combination of greater hostility and lower harmony within the family forecasted higher levels of child aggression at T2. This study, like many others, provides strong evidence that adopting this holistic style of analysis by considering both parental-child interactions and inter-parental interactions gives a much fuller picture of a child’s adjustment and development.

**Self-Organization and Adaptation Traits of the Family System:**

The ability to self-organise and adapt at different levels of the family system impacts heavily on child development. Sameroff (1983) highlighted the importance of transition points in the lifespan of the family and how these especially affect the continuity / discontinuity of child development. Such transitions could include the transition from adulthood to parenthood, marriage & employment changes. The birth of a child into a family creates new challenges to both the individuals and the family unit as a whole. Cowan & Cowan (2000) highlight a number of ‘transition challenges’. New parents are more likely to experience depression / psychosis immediately after the birth of their child. Gender roles become more traditional post birth and diverging attitudes between the spouse’s sense of themselves as a parent / worker arise.

Sameroff found that increased differences in these roles leads to a greater amount of marital dissatisfaction and conflict in the first few years after the first child’s birth. This in turn could have a negative affect on the child’s development (Cummings & Davies, 1995) as it leads to conflict, which if left unresolved threatens child security.

Large amounts of evidence suggests mutual influences affect different dynamics of the family system e.g. the quality of adaptation abilities of the marital system, quality of a child’s development and development of child – parent relationships (review article: Cox et al, 2004). Belsky et al (1998) found that mothers who responded to toddlers irritability negatively by imposing their ‘own goals and agendas’ onto the child without regard to the child’s own desires led to the toddlers being more likely to develop behaviour related problems when compared to toddlers who had mothers who were more receptive and less intrusive. Van den Boom (1991) found mothers who responded with less irritability to their new-born children showed more involvement in their children lives over the next six months than those who responded with more irritability. Children who experience the decline of maternal involvement showed reduced improvements in their emotional regulation. The mother-child relationship can also impact on a child’s development in dealing with novel situations. Early et al (2002) investigated children
making the transition from preschool to kindergarten. Over there first year those who had mothers who were responsive and ‘highly sensitive’ to them during their preschool acted normally (did not display an increased level of shyness) when making the initial transition into kindergarten. By contrast, children who had been shy and had mothers who were insensitive to their emotional signals over their pre-school year were seen to continue to be extremely shy and withdrawn when making the transition to kindergarten.

From the evidence discussed above it is clear when adopting a systems style approach of analysis we can explain why some individuals develop along untypical paths. Interactions across multiple levels influence child development; child behaviour influences the parenting behaviour, which in turn affects child development. Only by viewing the child at the centre of a dynamic system can research give a full perspective. Yet, FST omits other element of the systems that a child is situated in. By generalising ‘systems style’ analysis outwards by viewing the child in the context of multiple systems more still can be learned.

**Community Psychology Theory:**

Community psychology was born out of a cultural shift with increased focus on mental health provision in the U.S in the 1940’s, culminating in a conference in Massachusetts in 1965. The outcome was a shared agreement amongst all who attended to move focus from treatment to prevention with the inclusion of an ecological perspective moving away from Clinical Psychology.

Clinical psychology focuses more on the individual in the context of herself – assessing the internal variables (e.g. cognitions, neural structure or behavioural tendencies) that influence their life.

The ecological perspective of Community Psychology works similarly to FST borrowing two core principles from Systems theory. It considers the individual as components in an organised system of the forces that work to enhance wellbeing of these communities and that, removing the person from the system their behaviour is irrevocably changed and thus should be treated within the concept of this system of forces. Community Psychology focuses on the forces that influence social groups and by extension individuals within those groups. Similar to FST, Community Psychology focuses on the individual in a context of a system of forces acting on them. Some of these systems of forces may include social issues, the environment, social institutions, peer groups and any other settings that serve to influence groups. Community Psychologists are
orientated toward prevention of problems and the promotion of wellness rather than treating existing conditions.

Core Principles – Multiple Levels of Intervention and Early Intervention in Child Development

Community psychology operates on a number of central concepts. Most relevant to this paper is the concept of ‘Multiple Levels of Intervention’. This is in a similar vein to FST – multiple forces or systems affect a child in much the same way that a child is affected by multiple relationships within the family unit; one of many systems influencing the development of the child both positively and negatively. Some systems can be oppressive such as being a member of a minority group. Community Psychology works hard to reduce the impact of exclusion. By providing the child with early intervention is key to promoting positive development. Urie Bronfenbrenner (1977) identified four different tiers of ecological systems that can influence the development of the child. These tiers can be thought of as concentric circles radiating outwards from the child. These systems are: Microsystems, Mesosystems, Exosystem and the Macrosystem.

![Figure 1: Urie Bronfenbrenner’s Ecological Systems Model of Child Development](image)

* No specific Settings at this level, mostly made up of factors.
Comparable to FST, Bronfenbrenner posited that only by considering all of four different tiers of systems could you really understand the development of a child and gain a real world perspective. Similar to Cumming’s research, analysis in this manner focuses on a wider context; examining how different microsystems interact with each other and how this influences Child Development. By omitting some of these levels you are left with artificial conclusions that do not reflect how individuals within communities operate and develop in real life – in this case children. Some levels exert influence without the child being directly in them – (exosystem) and should be considered to gain a ‘real world’ picture. Many ecological, multi-tier models have been inspired by Bronfenbrenner’s thinking. James Kelly (Kelly, 1968 & Kelly, 2006) suggests communities are best understood by using an Ecological Model. By paying particular attention to certain ecological processes (awareness of interdependence, cycling of resources, adaptive capacity and success) can increase understanding of how a community and an individual within a community operate.

Community Psychology and Early Childhood Environment:

Development of a child in this case is interpreted as a ‘lasting change in the way in which the individual perceives and deals with the environment.’ (p3, 1979). Placing the child in the centre of these tiers gives a better perspective of how multiple systems mutually influence child development. The immediate setting that the child finds itself in, such as a home or a classroom is the microsystem. A tier outwards is the interrelationship between all these different settings and how they interact within the mesosystem – in this example the home microsystem may interact with the classroom microsystem. Further out from that at a third level is the environment (Exosystem). Environments a child is not directly in can still influence it’s development: e.g. the policies of the parents’ workplace such as provision or lack of day care or health care. All three of these levels are interconnected. As well as viewing the child in the context of a single system, the family; by viewing the child in the context of multiple microsystems that interact with each other and how the child interacts and perceives these microsystems and their importance, ultimately governs their development.

An anecdotal example can illustrate this: 10-year-old Chris is having difficulty applying himself in school and focusing on his work. Traditional methods would focus mostly on individual deficits of either the child or the family but research has shown that more effective programs usually take a broader perspective accounting for the setting and the systems at work as well as the people in them. Using traditional individual methods of analysis a teacher might deduce that a tutor /
learning support is needed or Chris is suffering from attention deficit disorder. However by taking an ecological perspective, you consider all of the other microsystems Chris is involved in such as his family, neighbourhood or playground (out of class room school settings). In this case Chris’s parents are going through a divorce, which Chris is finding distressing. His father has been made redundant. Chris is also the victim of bullying outside class and thus finds it hard to concentrate in a class surrounded by peers who tease him. By considering all the different microsystems and how they interact, a better course of action would be to give Chris peer support (through programs such as CODIP) or greater supervision over him in the playground.

Given multiple systems of forces influence a child’s development it is not enough to focus on a single system such as the family or child care within the family, multiple forces across multiple systems need to be addressed. Making changes to one system can often impact positively on others. There is strong evidence that a holistic approach provides greater understanding and thus more effective interventions than traditional approaches to improve child development. The next section will discuss the notable influences on child development: divorce, education and youth crime.

Childhood Divorce Interventions:

Experiencing Divorce is a huge influence on a developing child. Farber, Felner & Primavera, (1985) suggests that availability of support from other family members is one of several factors that moderate the effect of stress on a child from divorce. Lustig, Wolchik & Braver (1992) found a strong negative correlation between a child’s adjustment and the level of ‘chum’ support available to them – highlighting the influence that one microsystem (peer group) can have on another (a family) and an individual. Proactive ‘systems style’ interventions are extremely effective. Cowen’s (1996) CODIP project (Children of Divorce Intervention Program) based in America targeting 4th – 6th grade (9-11 years old) suburban children. The purpose of this program was to create peer support where children can establish common bonds and to provide children with adequate coping skills to counter act the stress of divorce.

CODIP begins with an initial intervention using a similar model to CSG (Children’s Support Group - Stolberg & Garrison, 1985). Children are grouped by age-matching and given tasks that are interactive, semi-structured and specific to the 9-12 year old age range. The results of this pilot study showed gains in school-related activities and the increased ability to ask for help when needed. Those participating in the pilot showed less problem behaviours within schools. Parents
also noticed positive effects at home as children were reported to be less anxious and nervous. Similarly follow up on the pilot later on showed the positive effects endured as children were still displaying the positive signs of less anxiety and more security in the home. Teachers who were naïve to participants in the study reported fewer problems and reduced anxiety in children who took part vs a control group. Although originally designed to target a specific age range due to the positive results of this pilot, the model has been updated to newer versions that are tailor made to adolescent children and younger children. 4 separate adaptations of the CODIP model that have been developed for children of different age ranges: Kindergarten to first grade, 2nd to 3rd grade, 4th to 6th grade and 7th to 8th grade. Different age ranges face specific issues, for older children suffering from anger and loyalty conflicts whilst younger children often feel guilt and responsibility for their parent’s separation, so each variation is different and tailored to that age range.

Interventions in the Educational System:

Education is a second major ‘force’ that hold influence over child development. Motivation for programs of intervention within education stems from the belief that by enriching a child’s social and intellectual adjustment to the demands of school will increase the likelihood of that child being able to meet demands later on in life. This belief coupled with the ‘Early Intervention’ has led to a large amount of programs targeting a ‘high risk’ young underprivileged demographic. Children in these demographics who do not receive enrichment or early prevention programs continue to fall behind because initially they are less prepared for school; this deficit later causes behaviour problems later on in life influencing development. Early intervention programs act as an ‘invisible safeguard’ to protect against this. Many early interventions schemes exist in schools, most famous is the Head Start Program implemented in 1964 in America, providing children health, education, and nutrition and promoting parent involvement to reduce this deficit.

Head Start is unique due to 2 key features: first, although a nationwide program, schemes were altered to fit individual communities. Secondly Head Start programs offered interventions across multiple Microsystems – not just the classroom but also the home as well involving parents as well as teachers (Zigler & Muenchow, 1992). There have been problems assessing the effectiveness of Head Start given the varied nature they have across country and their rapid evolution across time – the Head Start programs from the 1960’s are very different to contemporary programs. More over there has been disagreement about what constitutes
‘progress’ by children – should it be School Readiness, Social Skills, Cognitive Skills or Better health that is assessed. Despite these difficulties in assessing Head Start’s effectiveness and many studies show both short and long-term benefits to the program. Studies by the Administration for Children and Families (2006) showed Head Start children had improved social skills in word knowledge, letter recognition, maths and writing skills compared to non-program children. Long Term of the program found that graduates of Head Start programs were similar to other adolescents in categories such as: Highest Grade Achieved, perceived health, a sense of mastery and level of depressive symptoms (Caputo, 2004). Ludwig and Philips (2007) assessed the cost-benefit literature on Head start and concluded that given the long-term impacts the program ‘passed’ a cost-benefit analysis. Programs like head start work on multiple systems of forces to help disrupt the casual chain from childhood poverty to school failure to adult poverty and its related social problems. An example of how changes to one microsystem affect another.

Interventions Reducing Youth Offending:

Systems theory and Community Psychology have proved useful in understanding youth criminal behaviour and providing lasting interventions to reduce youth offending. This is a prevalent issue: 22% of all violent crimes are committed by young people in London (Met Police Intelligence Brief, 2011). Recidivism is a major concern in youth offending; in the USA alone 55% of youth criminals reoffend (Woodward, 2008). Systems style interventions through community Psychology often prove more affective than traditional methods. Incarceration has proven ineffective, as it does not address the central issue of a sense of hopelessness that young people have causing a lack in motivation to change (Abrams, 2006 and Ryan & Yang, 2005).

Interventions on different systems of forces affecting young offenders have been shown to reduce youth crime significantly. One heavily examined relationship is that changes to an environment system can reduce crime rates, although interventions have to be handled in the right way. Community involvement in the change to environment is integral to its success (Kelly et al. 2005). Top Down changes to the environment are often ineffective (Kelly, Caputo & Jamieson, 2005). Neighbourhood Crime Watch schemes are a good example of a environment level intervention that have impacted on reducing crime rates (National Crime Prevention Council, 1989).

Finally, interventions across multiple systems exerting forces on young people can have been shown to reduce young people offending and reoffending. MAC-UK’s Integrate® Model is an
example of a Systems Style analysis and intervention aiming to bring mental health to young people on a housing estate in North London (Personal Communication, Zlotowitz S.). This is achieved through a number of youth led projects. Their Integrate model has reduced youth offending rates from 54% to 17% (Mental Health Foundation Report, in Prep). The integrate model provides mental health support for young people within 3 systems that affect young people: The Personal Level – comprised of the individual and the individual’s relations and peers, the Relational Level – other organisations that work with these young people and the Collective Level – influencing policy makers (Evans. S.D. & Prilleltensky. I, 2007).

What is unique about the Integrate Model is by placing the individual in the context of systems such a peer group, and viewing the peer group system as an integral part of the intervention you reduce the risk of re offending. MAC-UK’s approach also highlights how interventions through one aspect (mental health) have a huge impact across other spectrums – crime rate, employment and responsibility. By viewing all these as interrelated factors you can implement a lasting intervention on one level that impacts on many more. MAC-UK’s integrated approach is a powerful example and has been acknowledged as an example of best Practice in the Home Office’s report on ending Gang and Youth Crime (2011) and the Department of Health Report (2012).
Conclusions

The metaphor of a System is an extremely effective tool when examining child development. It stresses the importance of different exchanges and interactions across subsystems of a family that influence development directly or indirectly. On a larger scale, by adopting a multi-level approach not only is a greater perspective gained but by implementing systems style interventions you yield more effective results. Although harder to implement, Systems Theory style of analysis provides a clearer, more relevant ‘real world’ picture.

Although the field is growing, there is still a deficit in process-orientated research that targets multiple levels both within the microsystem and beyond. Two principles of Systems Theory have been most useful in understanding child development. Viewing the child as a component of a much system can help us understand the interplay of family dynamics. Secondly the notion that when a component (a child) is removed from their system they are irrevocably changed – distorting the outcome of a study giving artificial conclusions that don’t account for this interplay of different dynamics. This principle should heavily influence any future studies. Given the strength of Systems Theory future research should look to integrate linear research at one level level with multi-level research considering linear effects in context of other levels, perhaps requiring a multi-disciplinary approach. Long Term studies should be the focus to realise the potential of theoretical models of development put forward by systems theorists.
References:


