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A Review of Young People's Vulnerabilities to Online Grooming

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Abstract

This review explores risk factors that may make a young person vulnerable to being groomed online. Even though research in this area is extremely limited, adolescents appear to be the age group most vulnerable to online grooming. Other vulnerabilities appear to be consistent with those associated with offline sexual abuse. The review suggests that behaviors specific to online grooming include: engaging in risk taking behavior online, high levels of internet access, and lack of parental involvement in the young person's internet use. Vulnerabilities to carry out these types of behavior and be more exposed to the risk of online grooming, are set within the context of the Ecological Model of child protection, consisting of: individual, family, community, and cultural risk factors. Patterns of vulnerability regarding living environment, ethnicity, socioeconomic status, and personality are tentative, but are often interconnected. The more risk taking behaviors the young person carries out, plus greater levels of vulnerability factors, the less resilient they are likely to be towards protecting themselves against online grooming. A protective factor appears to be parental involvement in their child's use of the internet. Therefore, this, in combination with internet safety education at school, is encouraged.

Keywords: Internet; Vulnerabilities; Online Grooming; Young People; Child Abuse

Vulnerabilities of Young People to Online Grooming

In the child protection arena, Hamilton-Giachritsis, Peixoto, and Melo (2011) have suggested that The Ecological Model is the most commonly applied, first outlined by Bronfenbrenner (1979) and later adapted by Belsky (1980) and Cicchetti and Lynch (1993). This Model describes the environment as an interrelated chain of contextual factors, each nested into the next (Bronfenbrenner, 1979); thus, when child abuse occurs, it is affected by forces within the individual, the family, the community, and the culture within which the individual lives (Belsky, 1980) (see Figure 1). No child exists in isolation; therefore, child abuse is a dynamic process and the likelihood of risk of abuse involves the complex interplay between a child, their relationship with others, their community and culture (Hamilton-Giachritsis et al., 2011).

1. Risk, Protection and Resilience in Young People within the Ecological Approach

The risk and protective factors influencing young people that determine risk and harm offline have been extensively studied (e.g., Belsky & Stratton, 2002; Cicchetti & Lynch, 1993; Dixon, Browne, & Hamilton-Giachritsis, 2009; Trenado, Pons-Salvador, & Cerezo, 2009). Such studies share the understanding that a risk factor is an attribute or circumstance that increases the probability of a harmful outcome for an individual (Werner & Smith, 1992). Risk factors co-occur (Masten & Powell, 2003) and, in reality, young people will experience multiple and recurring risks rather than a single incident (Sameroff, Gutman, & Peck, 2003); this accumulation of risk is critical (Rolf, 1999). In contrast to risk factors, protective factors act as buffers reducing the impact of risk, helping to minimize its negative impact (Shoon, 2006), which can occur at any ecological level. Extensive research has identified no single risk factor as the principal catalyst for abuse; rather, data suggest that a

complex interplay of multiple risk factors and the absence of protective factors decrease a young person's resilience, making them vulnerable to abuse (Masten & Coatsworth, 1998).

Resilience refers to resistance of the negative impact of risk factors, and the ability to adapt and cope well with such events (Cohen, 2011; Luster, Bates & Johnson, 2006; Rutter, 2001; Sameroff et al., 2003). Recent research has broadened the term to account for the context dependence of resilience, as the young person will require resilient surroundings (e.g., families and communities) to achieve well-being (Ungar, 2008). This further emphasizes the relevance of the Ecological Model (Bronfenbrenner, 1979). However, it should not be expected that a person whom is resilient in one situation is resilient in all, or resilient 24 hours a day (Banyard & Williams, 2007; Jaffee & Gallop, 2007; Masten & Powell, 2003; Marriott, Hamilton-Giachritsis, & Harrop, in press). A young person's resilience is a key indicator of how vulnerable they are likely to be toward abuse.

Research has begun to explore the vulnerabilities of young people, as viewed by their abusers and how these vulnerabilities contribute to victim selection. In Sullivan's (2009) interviews with child sex offenders, offenders identified vulnerability as the most important aspect of victim selection. However, offenders disagreed on what vulnerability might encapsulate. For some it was neediness, while for others it was those who were confused about their sexual orientation and for others it was ethnic minority status (Sullivan, 2009). This demonstrates the heterogeneity among offender's selection, as many also stated attractiveness and availability as influencing factors. With regard to online abuse, recent research has noted that the vast majority of young people are resilient online (European Online Grooming Project, 2012), and are unlikely to respond to approaches from online groomers or unlikely to respond in a risky manner (Brå, 2007; Mitchell, Finkelhor, &

Wolak, 2007). Despite this, a small proportion of young people online are vulnerable (European Online Grooming Project, 2012); however the features that make this group vulnerable are not yet understood and thus an exploration of these vulnerabilities is necessary. As with much research in this area, the European Online Grooming Project (2012) used qualitative methodology and samples are therefore relatively small. Application of results to wider populations should be cautious as interviews with online groomers only took place in three countries, as did the focus groups with young people. This research among others, acknowledges that young people live in a converged environment (CEOP, 2010) where there is little distinction between online and offline actions. For the purpose of clarity and comparison within this paper, distinctions will be made between the two contexts. It is argued that the risk and protective factors attributed to both online and offline environments experienced by a young person will be heavily influenced by ecological factors and are likely to indicate levels of resilience. The factors that relate to vulnerability will now be examined and are summarized in Table 1.

2. Individual Vulnerabilities

2.1. Gender

Regarding the sexual abuse of children offline, research suggests that girls are more likely to be victimized than boys (Finkelhor, Ormrod, Turner, & Hamby, 2005; Finkelhor, Turner, Ormrod, & Hamby, 2009; Kenny & McEachern, 2000; McGee, Garavan, Barra, Bryne, & Conroy, 2002; Pereda, Guilera, Forns, & Gomez-Benito, 2009). Similarly, online studies have found girls are at greater risk of being targeted than boys (Baumgartner, Valkenburg, & Peter, 2010; Brå, 2007; Helweg-Larsen, Schütt, & Larsen, 2011; Mitchell, Finkelhor, & Wolak, 2007b; Suseg, Skevik Grødem, Valset, & Mossige, 2008; Wolak, Finkelhor, Mitchell, &

Ybarra, 2008). Boys use the internet slightly more than girls, (Livingstone, Haddon, Görzig, & Olafsson 2011); but the gender difference in the likelihood of being approached sexually online is significant. In a study exploring internet initiated commercial sexual exploitation of children, 82% of the victims were female (Mitchell, Jones, Finkelhor, & Wolak, 2011). Similarly, Finkelhor, Mitchell, and Wolak (2000) found that girls were targeted for online sexual solicitation at almost twice the rate of boys (66% females versus 34% males). It is worth noting however that this research uses the term 'sexual solicitations' rather than grooming and 48% of these solicitations and photo requests were from other young people. Research by the same authors noted that girls were also more likely to receive requests for sexual photos (Mitchell et al., 2007).

However, having said that girls are at greater risk, it is important to dispel the assumption that boys are not at risk of sexual abuse (whether offline or online) because a significant number of the victims are male (Finkelhor et al., 2000; Wolak et al., 2008). Furthermore, it is likely that the sexual abuse of boys online is grossly underreported, potentially due to negative stigma discouraging boys from reporting (O'Leary & Barber, 2008). Specifically, boys who are gay or questioning their sexual orientation may be particularly vulnerable (UK Council for Child Internet Safety [UKCCIS], 2012; Wolak et al., 2008; Wolak, Mitchell & Finkelhor, 2004) as offenders may exploit their sexual confusion and insecurities surrounding this. Indeed, a Swedish study found that self-reported homosexuality or bisexuality is the single strongest risk factor in determining if a young person is approached sexually online for both boys and girls (Suseg et al., 2008). Some research suggests that boys generally are more likely to encounter or generate risks on the internet; however girls are more likely to be affected (e.g., experience distress or being

upset) by the risk and content (Livingstone & Haddo, 2009). These findings are mirrored by those of De Graaf and Vanwesenbeeck (2006), in which girls reported being significantly less likely to enjoy receiving sexual questions or requests online.

2.2. Age

There is debate among child sexual abuse literature regarding which age group is most at risk; some studies suggest abuse is most prevalent before puberty (Murthi & Espelage, 2005; Children's Bureau and Department of Health and Human Services, 2010) while others argue the risk peaks in adolescence (Bebbington et al., 2011; Finkelhor et al., 2005). A body of evidence suggests that in the online world adolescents may be at greater risk of unwanted sexual solicitations than younger children or adults (Baumgartner et al., 2010; CEOP, 2008; Finkelhor et al., 2009; Mitchell, Finkelhor, & Wolak, 2001; Quayle, Jonsson, & Lööf, 2012; Soo & Bodanovskaya, 2012; Wolak et al., 2008).

One possible explanation is the higher level of online communication and variety of access for older young people (Livingstone et al., 2011; Munro, 2011; Ofcom, 2010). A second explanation is the inherent nature of adolescent behaviour. Adolescence is a key developmental stage of cognitive, biological, and psychological growth posing unique challenges (Antaramian, Huebner, & Valois, 2008; Blakemore & Choudhury, 2008; Garcia, 2010; Irwin, Burg, & Cart, 2002; Soto, John, Gosling, & Potter, 2011; Tilton-Weaver, Kakihara, Marshall, & Galambos, 2011). In fact, this developmental stage is so crucial that 75% of mental health problems in adults have onset in adolescence (Kessler et al., 2005). During this time it is developmentally typical for a young person to seek wider social engagement and actively seek relationships, often leading to sexuality experimentation (Quayle et al., 2012), and they are likely to want attention, validation, and acceptance

(Dombrowski, LeMasney, Ahia, & Dickson, 2004). It has also been suggested that individuals under the age of 18 years have greater reactivity of the socio-emotional systems within the brain, leading them to exhibit greater sensitivity to reward (Farmer, 2011). This combined with adolescents' drive for social interaction and acceptance, may well influence their behavior online and make them vulnerable to grooming.

Adolescent development often typifies risk taking and impulsive behaviour (Gumbiner, 2003; Pharo, Sim, Graham, Gross & Hayne, 2011; Romer, 2010). In one study however, compared to adults, adolescents demonstrated equally proficient risk perception and estimation of their vulnerability to it (Albert & Steinberg, 2011). This has led researchers to explore various explanations as to why adolescents continue to make riskier choices than adults. Van Duijenvoorde, Jansen, Visser, and Huizenga (2010) found that adolescents tend to make poorer decisions in emotionally arousing situations, but are capable of mature decision making strategies in low arousal or cognitive situations. In the context of online behavior, the grooming process is likely to be emotionally arousing for young people because it often evokes feelings of love and thus the findings from Van Duijenvoorde et al.'s (2010) research could offer contributions as to why some young people make poor decisions by continuing to engage with the offender during grooming.

In summary, adolescents are naturally inexperienced, sensation-seeking, impulsive, and risky (Atkinson & Newton, 2010; Van Leijenhorst et al., 2010), when this combines in the online environment with their tendency to explore sexual urges, they are likely to be particularly vulnerable online (Wolak et al., 2008).

2.3. Interpersonal Features

Low self-esteem, susceptibility to persuasion, behavior difficulties, emotional suffering and immaturity are all characteristics associated with victims of offline sexual abuse (Dombroski et al., 2004; Olson, Daggs, Ellevold, & Rogers 2007; Stanley, 2001). Similar vulnerabilities have been found in research relating to online grooming where young people with low self-esteem, emotional disturbances and psychological disorders are more at risk (European Online Grooming Project 2012; Soo & Bodanovskaya, 2012). Mental health problems (such as depression), troubled minds, and delinquent tendencies may make a young person more vulnerable to online grooming (De Graaf & Vanwesenbeeck, 2006; Mitchell et al., 2001; Mitchell, Ybarra, & Finkelhor 2007; Wolak et al., 2004; Wolak et al., 2008), although it is again worth noting potential discrepancies depending on the use of the term grooming or sexual solicitations within the study. Furthermore, Livingstone et al. (2011) found that across Europe, young people with psychological problems encounter more risks online and have a higher chance of being upset by the experience.

Evidence suggests that depression is positively related to chat room use and accessing the internet for longer than one hour per day at home (Sun et al., 2005) and more than two hours of any screen time (e.g., TV, computers) a day is related to psychological difficulties regardless of the level of physical activity (Page, Cooper, Griew, & Jago, 2010). It is, therefore, possible that using the internet for long periods of time or using chat rooms could increase vulnerability towards online grooming due to the impact these activities may have on a young person's mental health. Research surrounding an individual's self-perception and mental health contributing to online grooming vulnerability has begun, but further research is necessary to provide more information on causal links.

Further exploration of interpersonal features requires acknowledgement of the individual's personality. The Big 5 Personality Traits (McCrae & Costa, 1987) of Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness are widely used among psychologists. Personality traits are considered to be relatively stable over time (Gumbiner, 2003; Meeus, Van de Schoot, Klimstra, & Branje, 2011; Pervin, Cervone, & John, 2005; Rogosch & Cicchetti, 2004), but few studies have linked personality traits before and after offline abuse. It has been argued that as adolescents grow, their personalities mature in the direction of resiliency (Meeus et al., 2011). Some studies look at personality traits in relation to individuals with a history of childhood trauma, and sexual abuse (Allen & Luterbach, 2007; Pickering, Farmer, & McGuffin, 2004, Talbot, Duberstein, Butzel, Cox, & Giles, 2003); however, the focus tends to relate to the outcome of the abuse rather than factors leading up to it. Generally, research has focused on quantitative samples comparing personality traits of an adult population who were maltreated as children to an adult population who were not (Allen & Luterbach, 2007; Bradley, Heim, & Westen, 2005; Pickering et al., 2004). For example, Pickering et al. (2004) explored personality traits of adults who experienced childhood trauma (emotional abuse, physical abuse, sexual abuse, emotional neglect and physical neglect), 23% of the sample had experienced child sexual abuse. Results showed that childhood sexual abuse was associated with personalities involving sensation seeking, unique hobbies, and non-conformity (Pickering et al., 2004). The authors identify that a predisposition to such personality traits, combined with a risk factor (e.g., child sexual abuse) is likely to contribute to abuse. In contrast to this study, some offenders have noted a preference for quiet, withdrawn children (Conte, Wolf, & Smith, 1989) as opposed to extraverted, sensation-seeking young people.

Thus, although results have been inconclusive, there is a link between trauma in childhood and personality traits (Allen & Lauterbach, 2007; Bradley et al., 2005; Talbot, Duberstein, King, Cox, & Giles, 2000).

With regard to online grooming, Livingstone and Helsper (2007) found that a young person's offline social – psychological characteristics influence how they interact with others online. Other research recognizes that offenders often look for 'good targets' when assessing which young people to groom (Oslon et al., 2007). Olson et al. (2007) suggest that personality traits are a key category of risk that makes a young person vulnerable to grooming. In particular, personality traits that evoke low self-confidence and low self-esteem leave young people vulnerable to being approached by offenders (Olson et al., 2007) and, therefore, may require more resilience than other young people. The European Online Grooming Project (2012) categorized potential victims as either vulnerable or risk takers and found that within the risk takers group, young people had personality traits relating to Extroversion, such as confidence and being outgoing. These young people are vulnerable to online grooming through their risk taking behavior; this behavior may well be fueled by their personality traits. While there is very little research identifying whether certain personality traits may increase vulnerability to offline abuse, there is even less research specifically relating this to online grooming and further research is needed to ascertain whether some of the preliminary research findings are accurate.

2.4 Disability

It is generally supported by research that there is an association between disability and vulnerability to child sexual abuse offline (Brunnberg, Boström, & Berglund, 2012; Sinanan, 2011; Yancey & Hansen, 2010). Online, while young people with a disability are

slightly less likely to use the internet as regularly as their non-disabled peers (Livingstone & Bober, 2005), the internet can provide solace and support for those with disabilities, particularly if they feel marginalized or excluded from peer groups in the real world. However, while the online environment may offer opportunities for social engagement, young people with disabilities sometimes experience further marginalization online (Söderström, 2009). And like other young people, they are exposed to the risk of online grooming but may be less able to recognize or cope with it.

In a study comparing 97 physically disabled young people with 1,566 non-disabled young people from schools and residential units, Lathouwers, de Moor, and Didden (2009) reported very similar levels and type of internet use between the two groups. The parents of physically disabled young people in this study were, however, more likely to have spoken to their child about risks online and consequentially implemented restrictions around use (Lathouwers et al., 2009). In a European wide study involving 25 countries and 25,142 11–16 year olds, Livingstone, Haddon, Görzig, and Olafsson (2011b) found 6% of their participants had a mental, physical, or other disability. Livingstone et al. (2011b) reported that these disabled young people are at higher risk online, most notably regarding risks associated with meeting online contacts in the real world. The digital skills of young people with a disability was actually found to be higher than average; however, their parents reported less confidence with their disabled child's ability to cope with the online environment (Livingstone et al., 2011b). It was also found that disabled children are less likely to confide in a friend if they encounter something worrying on the internet which may indicate less social support among this group (Livingstone et al., 2011b). As discussed in

section 4.1, lack of social support can be considered a vulnerability towards online grooming in disabled and non-disabled children.

Trusting unfamiliar adults is typical for young people with disabilities (often generated by their relationships with carers) and this may make these young people particularly vulnerable to trusting adults online. Learning disability can also be associated with less critical or cautious behaviour which may make it easier for online groomers to convince young people with learning difficulties that they can be trusted (Sorensen & Bodanovskaya, 2012). Thus, although research directly relating to disability and online risk is very limited, initial findings appear consistent with those relating to disability and offline abuse, as specifically online vulnerabilities for disabled young people are not apparent. However, it is important to highlight the impact of various other ecological factors that contribute to the general vulnerability of young people with disabilities which may, in turn, lead them to be vulnerable online. These include a negative self-image, mental health problems, and exposure to violence within the family (Sorensen & Bodanovskaya, 2012), all of which are potential risk factors making young people more vulnerable and less resilient towards online grooming.

3. Parent and Family Vulnerabilities

3.1 Family

Research has found various factors within a family lead to increased risk for young people offline, including single parent families (Lauritsen, 2003), poor relationship between parents and /or parent and child (Jack, Munn, Cheng, & MacMillan, 2006), dysfunctional family dynamics (Olson et al., 2007) and lack of family cohesion (Stith et al., 2009).

However, the majority of the offline research looks at young people who have been maltreated throughout their upbringing, often by parents in their own home. It must be considered that victims of online grooming may not have experienced any maltreatment until the grooming began and therefore different family influences may be related to these young people.

Young people who are alienated by and in conflict with parents or have family difficulties are vulnerable to online sexual approaches or grooming online (Mitchell et al., 2007; Suseg et al., 2008; Wells & Mitchell, 2008; Wolak et al., 2004; Wolak et al., 2008). Much like offline abuse, young people who live with a single parent or as part of a reconstituted family are also at greater risk (Gallagher, 2007). Stakeholders from across Europe identified online accounts of problems at home as a key vulnerability indicator for online groomers. The offender recognizes that the young person may seek empathy, attention, or feedback from an adult (European Online Grooming Project, 2012) and can exploit this. This is consistent with other interpretations which note young people may be vulnerable online because they are looking for attention and affection (Lanning, 2005; Stanley, 2001). Brå (2007) reported that young people who reported low satisfaction with their families were more likely to have experienced sexual contact from adults, both online and offline. However, these are confounding factors and low satisfaction may have been a consequence of the abuse.

A parent's involvement and monitoring of the young person's internet use of appears to be a protective factor as young people with parents who oversee their internet use, experience fewer negative online events than other young people (Soo & Bodanovskaya, 2012). De Graaf and Vanwesenbeeck (2006) highlight that young people

who were aware their parents were monitoring their internet use engaged less in sexual conversations and activities online than those whose parents did not monitor use. This finding may be indicative of the impact that proactive parenting can have on reducing risk to online grooming or the fact that potential risks online may be highlighted to the young person as a result of parental monitoring. Parental substance abuse has also been found to be risk factor to offline abuse (Berger, Slack, Waldfogel, & Bruch, 2010). Similarly, Suseg et al. (2008) found young people who reported high volumes of parental alcohol consumption were also more likely to be approached sexually online (Suseg et al., 2008). One possible explanation for this is that a parental preoccupation with alcohol may reduce the extent of monitoring the parent can exercise over their child's internet use. In summary, parental involvement can act as a protective factor for online sexual abuse as well as risk taking behaviour (De Graaf & Vanwesenbeeck, 2006).

3.2. Socioeconomic Status

While poverty does not inevitably lead to maltreatment, it is generally accepted that young people from low socioeconomic groups are more susceptible to social problems of all kinds, including offline sexual abuse (Bagley & Mallick, 2000; Sedlak, McPherson, & Das, 2010). However, this view has been challenged by a meta-analysis of child sex abuse research (Pereda et al., 2009), which concluded that there appears to be little or no relationship between child sex abuse and social class or victim family poverty. Putnam (2003) similarly concluded that while low socioeconomic status is a risk factor for other types of abuse (e.g., physical and neglect), it exercises considerably less influence over the risk of child sexual abuse.

In terms of online grooming, research investigating links with socioeconomic status is scarce. However, it is recognized that accessibility may be a contributory factor to whether a young person is likely to receive sexual approaches online (Livingstone et al., 2011). Young people from a higher socioeconomic background and high income families are more likely to have home internet access, at least one computer and internet enabled portable devices, than those from disadvantaged backgrounds (Livingstone, Bober, & Helsper 2005; Soo & Bodanovskaya, 2012; Spielhofer, 2010). This is likely to result in greater levels of internet use and online expertise leading these young people to experiencing more online opportunities, but their exposure to risks online is also likely to increase (Livingstone & Bober, 2004; Livingstone & Haddon, 2009).

In contrast, across Europe, Livingstone et al. (2011) reported that young people of higher socioeconomic status have a more diverse range of contacts including people unknown to them in the real world and are more likely to receive online sexual solicitations. However, the authors noted that although less likely to encounter these risks in the first place, young people from low socioeconomic groups are more upset or bothered by them when they do (Livingstone et al., 2011). This finding could imply that young people with a higher socioeconomic status are more resilient to online risk factors than those from a lower socioeconomic group.

It should be considered though that correlations between vulnerability to online grooming and socioeconomic status are highly interconnected with wider ecological risk factors and the relationship that low socioeconomic status would have in combination with other risk factors is particularly important when assessing the likelihood and impact of online grooming. For example, Suseg et al. (2008) found that young people who reported

financial difficulties within the family were more likely to experience online sexual solicitations than young people who reported no financial difficulty. Mitchell et al. (2007) found that the education level of parents is more important than income in determining whether the young person is likely to experience online sexual approaches. Results showed that young people from households with well-educated parents are less likely to be victims of online grooming.

In summary, research in this area is limited and inconclusive for both offline and online abuse. Furthermore, the extent to which a young person is vulnerable to online grooming may not be easily ascertained from knowledge of their socioeconomic status because risks online are not neatly correlated with deprivation levels (Livingstone et al., 2005).

4. Community Vulnerabilities

4.1 Friends

Social vulnerability is fundamental when considering which young people may be susceptible to online grooming. In the same way that social isolation is associated with offline victimization (Olson et al., 2007), offenders online tend to target the child that appears isolated or in the 'out group' amongst peers (European Online Grooming Project, 2010). This further meets the needs of the offender as the young person is less likely to be warned or distracted by their friends (European Online Grooming Project, 2010). Young people who struggle with social interactions, have few or no friends and feel alienated are more likely to be vulnerable to sexual solicitations or grooming online (Stanley, 2001; Suseg et al., 2008; Wells & Mitchell, 2008; Wolak et al., 2004). A primary characteristic of social vulnerability is emotional loneliness, which is also a key issue for risk and resilience (Berson,

2003; European Online Grooming Project, 2010; Wolak et al., 2004) as those who feel emotionally lonely are likely to lack the supportive structures necessary to display resilience in the face of negative events. Furthermore, offenders who recognize this loneliness and need for attention can exploit it through grooming online (European Online Grooming Project, 2012). Young people who are lonely or shy may use online chat rooms to communicate with others helping to compensate for their social difficulties offline (Peter, Valkenburg, & Schouten, 2005). This is noteworthy as research suggests that use of chat rooms, in particular (more so than other online communications), puts young people at risk of sexual approaches (Mitchell et al., 2007; Wolak et al., 2008).

Research has found very high life satisfaction is linked with high levels of support and positive involvement from others, including parents, peers, teachers and classmates (Elmore & Huebner, 2010; Suldo & Huebner, 2006). Such support and satisfaction is likely to increase a young person's resilience. Martin, Huebner, and Volois (2008) found that levels of life satisfaction among adolescents predicted victimization and prosocial experiences. Similarly, relational victimization and prosocial experiences approached significance in predicting levels of life satisfaction. These results indicate that there could be bidirectional effects between life satisfaction and victimization/pro-social experiences (Martin et al., 2008). In summary, while research is relatively consistent in indicating peer isolation and social difficulties as vulnerabilities towards offline abuse and online grooming, findings surrounding online grooming are not extensive.

4.2. School

School is usually the first considerable extra-familial environment to which children are exposed and they find themselves surrounded by unfamiliar peers and adults (Cicchetti

& Toth, 2005). Research indicates that the area of life that young people appear to be least satisfied with is school (Antaramian et al., 2008; Huebner, Laughlin, Ash, & Gilman, 1998). Satisfaction with school is positively related to attachment to friends and parents (which are protective factors), implying that strong relationships are likely to offer psychological support that can be applied to different settings, such as school (Elmore & Huebner, 2010).

Several studies have documented a link between offline child abuse and academic problems (Boden, Horwood, & Fergusson, 2007; Daignault & Hébert, 2009; Veltman & Browne, 2001). However, Boden et al. (2007) warn that the effects of child abuse on education should be viewed in the wider psychosocial context that the child is exposed to as a result of the abuse; this may include socioeconomic factors, the family, and individual components. However, a study that looked specifically at child sexual abuse (rather than all types of maltreatment) found no relationship between poor academic achievement and child sexual abuse; young people who had been sexually abused were just as likely to succeed academically as those who were not abused (Buckle, Lancaster, Powell, & Higgins, 2005). Indeed, the authors found intelligence to be a protective factor for sexually abused young people (Buckle et al., 2005).

Brå (2007) reported that young people who were dissatisfied with school (including experiences of bullying) were more likely to be approached sexually by an adult, both online and offline. Furthermore, there is evidence that young people with lower education are more at risk of online sexual solicitations than those with higher education (De Graaf & Vanwesenbeeck, 2006). However, while there are tentative links between vulnerability to sexual approaches online and poor academic achievement or problems at school, it has not been identified whether this is a vulnerability to experiencing abuse or a consequence of it.

This is because the association between academic achievement and child abuse offline and online is ambiguous and may be indirect (Boden et al., 2007) in that many other factors may contribute to the relationship between the two. The impact of scholastic experiences on vulnerability to online grooming is largely unexplored. However, existing research suggests that dissatisfaction and difficulties with school may well be a contributory risk factor that would make a young person less resilient to sexual approaches online.

4.3. Living Environment

In a review of 25 studies looking at neighborhoods and offline child maltreatment, Coulton, Crampton, Irwin, Spilsbury, and Korbin (2009) found that there is fairly strong evidence of a relationship between neighborhood characteristics and the concentration of abuse. Children who live in environments that are characterized by poverty, high numbers of children per adult resident, population turnover, child care burden, and the concentration of female headed families are at highest risk of offline child abuse (Coulton, Korbin, & Su, 1999). High risk areas appear to be those categorized by social disorganization, and lack of social coherence (Garbarino & Kostelny, 1992), and young people from these environments tend to lack resilience to maltreatment (Jaffee, Caspi, Moffitt, Polo-Tomas, & Taylor, 2007). It has been argued that the prevalence of child abuse in different neighborhoods is not only a reflection of the people who make up the neighborhood, but also a reflection on the area itself (Korbin, 2003). Overall, research has yet to confirm the process that explains neighborhood maltreatment patterns and ascertain whether the role of living environment is directly or indirectly related to offline child abuse (Coulton et al., 2009; Guterman, Lee, Taylor, & Rathouz, 2009).

Research examining potential living environment vulnerabilities towards online grooming is sparse. Ofcom (2008) reported that mobile phone access is higher among children from urban areas and social networking access is higher among children from rural areas. However, no other studies found evidence for the difference in internet use based on geographical location (Spielhofer, 2010). The reason for higher social networking and less mobile use within rural areas could be a result of less transport links to physically visit peers and possible network coverage problems on mobile phones. Peter, Valkenburg, and Schouten (2006) found that one of the reasons young people chose to speak to strangers online was boredom. Therefore, it could be inferred that young people who live in environments with less overt stimulation (potentially rural areas) may be more likely to respond to groomers online. If living environment were to be indicative of vulnerability toward online grooming, is likely to be in combination with other factors rather than a risk factor in isolation.

5. Cultural Vulnerabilities

5.1. Nationality and Ethnicity

Child sexual abuse is a global problem (Bourke & Hernandez, 2009), and rates seem fairly comparable across countries, cultures and ethnicities; with just minor variations and little evidence that certain ethnicities may be a risk factor toward victimization (Bebbington, et al., 2011; Elliott & Urquiza, 2006; Finkelhor, 1994; Kenny & McEachern, 2000; Putnam, 2003; Sedlak et al., 2010). Research investigating the relationship between sexual abuse and ethnicity is sparse (McCloskey & Bailey, 2000) and findings have been inconclusive (Douglas & Finkelhor, 2005). It is also unclear how reliable the existing data on this relationship are (Elliott & Urquiza, 2006). However, Pereda et al. (2009) found large

variations between countries (e.g., child sexual abuse was very high in South Africa). This may be representative; however, the authors also consider the impact culture may have in contributing to the variation, as acknowledging, reporting, and recognizing child sexual abuse will differ across countries. The impact of cultural norms on whether abuse will be discovered or disclosed has been highlighted by much research (Fontes & Plummer, 2010; Kisanga, Nystrom, Hogan, & Emmelin, 2011). Given the potential bias in the levels of reporting between countries, it is difficult to draw definitive conclusions regarding the prevalence of child sexual abuse (whether online or offline) among different nationalities.

During an analysis of victims within child sexual abuse images, Quayle and Jones (2011) found that the likelihood of the victim being white was very high, at approximately 10 to 1. The images were taken from a database largely compiled during seizures involving UK operations and therefore results could be relevant to the UK only. However, offender networks are global and the images cannot, therefore, be categorized by country and may well indicate global trends. While there is potential overlap, this research was looking specifically at victims within images rather than those who have been groomed online. Contrastingly, Mitchell et al. (2007) reported that black young people were more likely to receive requests for sexual photos online. Research surrounding the ethnicity of victims of offline child sexual abuse and online grooming is extremely scarce.

6. Coping

Coping is understood to be a complex process (Garcia, 2010) that has been widely explored by research, extending beyond the scope of this review. As explained by Lazarus and Folkman (1984), coping refers to a person's cognitive and behavioral efforts to deal with stresses. While originally research was somewhat adult-centric when examining coping

mechanisms, adolescent coping is now being widely explored (e.g., Chagnon, 2007; Paliouras, 2009; Ripamonti, Clerici & Odero, 2006; Staempfli, 2007). The Ecological Model (Bronfenbrenner, 1979) illustrates that multiple sources or risk factors may cause a child stress and will require them to adopt coping strategies. As part of the development of the Adolescent Coping Scale, Frydenberg and Lewis (1993) outlined 18 factors which reflect adolescent coping. These include mechanisms such as social support, working hard, worrying, wishful thinking, self-blame, physical recreation, and keeping to self, among others. Adolescents may utilize a variety of different coping mechanisms in combination when seeking to cope with a problem.

Experiencing sexual abuse inevitably leads a young person to endorse various coping mechanisms. During interviews with male survivors of child sexual abuse, O'Leary and Gould (2010) found that participants employed two types of coping mechanism; first strategies that are linked to suppression and denial, second strategies associated with reframing. The first strategies were considered to have negative consequences for mental health and the second were likely to induce more positive outcomes (O'Leary & Gould, 2010). This research recognizes that coping develops throughout the life span of an individual; therefore, a young person's coping may well be different to how they are as an adult. Research has linked offline child sexual abuse with Post Traumatic Stress Disorder (Canton-Cortes & Canton, 2010) and avoidant coping styles (Fortier et al., 2009).

It is recognized that different individuals have different coping styles and these are likely to be related to different temperaments (Gumbiner, 2003). As part of a study which compared maltreated and non-maltreated children, Rogosch and Cicchetti (2004) found that the higher levels of Neuroticism associated with maltreated children, led to negative affects

and unbalanced emotional regulation. Furthermore, the maltreated group were less likely to engage in educational hobbies and imaginative thinking, which are traits associated with low Openness and may potentially hinder adaptation following abuse. This research demonstrates the impact personality traits may have on coping style. Some research has found links between specific traits and coping, most consistently Neuroticism appears to be associated with maladaptive coping strategies like escape-avoidance (Glidden, Billings, & Jobe, 2006) and with emotion focused or passive methods of coping (Shewchuk, Elliott, MacNair-Semands, & Harkins, 1999; Watson & Hubbard, 1996), whereas Conscientiousness is reported to be linked to problem-focused and active coping (Shewchuk et al., 1999; Watson & Hubbard, 1996). The remaining personality traits have given less consistent results and correlations appear to be much weaker, however, Extraversion shows a relationship with social support seeking, positive reappraisal, and problem-focused coping (Watson & Hubbard, 1996). Although research indicates that Openness may be far less related to coping, some research indicates an association with flexible, imaginative and intellectually curious coping mechanisms (Watson & Hubbard, 1996). Finally, the relationship between coping and Agreeableness appears sparse (Watson & Hubbard, 1996).

While some personality traits undoubtedly influence coping styles, the relationship is complex and likely to be affected by various other factors. Research surrounding the coping strategies adopted by victims of online grooming is considerably less developed.

7. Interactions between online and offline vulnerabilities

There are many known risk factors for a young person's vulnerability to offline abuse and there is mounting evidence to suggest that children who demonstrate vulnerabilities offline are likely to be vulnerable online (Livingstone, 2010; Soo & Bodanovskaya, 2012;

Wells & Mitchell, 2008; Woolgar, 2002). Much research suggests that past victimization is a risk factor for future victimization (Finkelhor, Ormrod, & Turner, 2007; Finkelhor, Ormrod & Turner, 2007b; Finkelhor, Ormrod, Turner & Holt, 2009; Hamilton & Browne, 1999) particularly when the person has previously been a victim of child sexual abuse (Reese-Weber & Smith, 2011; Swanston et al., 2002). A history of offline child sexual abuse is considered a risk factor for future victimization online (Helweg-Larsen et al., 2011; Mitchell et al., 2001; Mitchell et al., 2007; Noll, Shenk, Barnes, & Putnam, 2009; Wolak et al., 2008). Using data collected in 2008, from the National Survey of Children's Exposure to Violence, Mitchell, Finkelhor, Wolak, Ybarra, and Turner (2011), found strong links between online victimization and victimization in other areas of life. Ninety-six percent of respondents who reported online victimization by any individual also reported offline victimization by any individual within the same period (Mitchell, Finkelhor, Wolak, Ybarra, & Turner, 2011). Having been abused offline appears to be significantly and independently associated with online sexual solicitations, which are often in turn associated with meetings offline (Noll et al., 2009). The link between offline and online victimization is crucial as it is demonstrative of how inextricably linked online and offline vulnerabilities can be.

Further supporting the link between online and offline vulnerabilities, Brå (2007) found that young people who tended to engage in behaviors such as excessive drinking, drug use, and socializing with older friends (i.e., offline behaviors typically perceived as risk taking), were more likely to have received sexual communications from adults online. De Graaf and Vanwesenbeeck (2006) found no difference between the risk factors that make a young person vulnerable to offline sexual abuse and those which make them vulnerable to

online sexual abuse. However the authors acknowledge that this may be attributable to the very limited research comparing these dimensions.

For some young people, the environment (whether online or offline) may hold little relevance; however, for others, the online environment may alter the way in which they behave, potentially making them more vulnerable. For example, being shy offline makes little difference online (Livingstone & Helsper, 2007) as young people can behave in ways that do not necessarily fit with their natural characteristics and individuals often feel disinhibited by the screen in front of them (Suler, 2004). This online disinhibition (Suler, 2004) may lead to young people who are not perceived as vulnerable offline, to become vulnerable when on the internet.

It is important to remember that victims are not a homogeneous group. Although some groups who are vulnerable offline will also be vulnerable online, this is not always the case (UKCCIS, 2012). There appears to be two groups of vulnerable young people, those who are vulnerable offline and online and those who give no indication of being vulnerable offline, but seem to be vulnerable online (UKCCIS, 2012). The key issue with the second group is their use of the internet and the behavior that leads them to become vulnerable online.

8. Internet Use and Risk Taking

Further vulnerabilities may be identified by the way young people use the internet. The issue can be divided into two areas, extent of internet use and risk taking behavior on the internet.

Young people who access the internet most frequently have a greater probability of experiencing sexual solicitations online (Baumgartner et al., 2010; De Graaf & Vanwesenbeeck, 2006; Mitchell et al., 2001). Covert Internet Investigators at CEOP report that fictitious online profiles of young people, which have been created to entice offenders, do not conform to any specific stereotypical assumptions of 'vulnerable' victim typologies (CEOP, 2008). Offenders approach these fake accounts online (which they believe to be created by a young person) and attempt to groom the individual, despite the fact that no vulnerabilities are apparent from the account. This could imply that any young person could potentially be vulnerable online, simply by inhabiting a particular space and the issue is one of accessibility. Having said this, offenders may well have no strategy in victim selection and attempt to groom all young people available to them; however it is likely that only the vulnerable respond, while the resilient remain unaffected. For example, while girls communicate more online, sheer access does not automatically put them more at risk (Livingstone & Helsper, 2007); this access must interact with vulnerabilities for the risk to increase.

The risk taking behavior of young people online is key when addressing online grooming (CEOP, 2010; European Online Grooming Project, 2012; Soo & Bodanovskaya, 2012). And as discussed in section 2.2 it is considered developmentally appropriate that young people would seek to push boundaries and experiment with risk during adolescence. Livingstone and Helsper (2007) found that lower life satisfaction appeared to increase the likelihood of risky communication online, suggesting that young people could use the online environment to compensate for offline difficulties in some way (Livingstone & Helsper, 2007). Young people who use chat rooms and engage in risky behavior are particularly

vulnerable to online grooming (Mitchell et al., 2007; Soo & Bodanovskaya, 2012; Wolak et al., 2008). Risk taking behavior online is a fundamental risk factor contributing to whether a young person is likely to be groomed (De Graaf & Vanwesenbeeck 2006; Soo & Bodanovskaya, 2012). Ybarra, Mitchell, Finkelhor, and Wolak (2007) identified nine risky behaviors online that make young people susceptible to online victimization and noted that using a combination of several risky behaviors was the strongest indicator of abuse.

9. Discussion

This paper has outlined current research surrounding the individual, family, community, and cultural vulnerabilities of young people. It is important to emphasize that causes of abuse are likely to be ecologically nested within one another and these vulnerabilities will be interrelated (Belsky, 1980). Consequentially, there are various factors that contribute to a young person becoming vulnerable online and not all young people are vulnerable in the same way (Livingstone et al., 2011). Individual risk factors in isolation are unlikely to result in online grooming; rather, each risk factor that a young person is subject to reduces the resilience of that individual, which, in turn, increases the likelihood of them responding to a groomer if approached or instigating contact with a potential groomer. Thus, the factors that may lead a young person to be vulnerable to online grooming are complicated and interconnected (De Graaf & Vanwesenbeeck, 2006; Soo & Bodanovskaya, 2012). The key findings of this review are summarized in Table 1 and discussed below.

Within individual vulnerabilities, existing research suggests that young people are particularly vulnerable to online grooming if they are female, questioning their sexuality (male or female), in adolescence, or have a disability. This finding is largely consistent with literature surrounding offline sexual abuse; although adolescents appear to be more

consistently the high risk group regarding grooming online than they do for offline abuse. Similar to offline sexual abuse, interpersonal features, such as low self esteem and mental health problems, are reported to increase a young person's vulnerability toward online grooming. Personality vulnerabilities have been explored by research to a very limited extent. The literature focuses on physical abuse and personality disorders of victims of sexual abuse, rather than their personality traits. The research in this area is currently inconclusive and there is a need for further study.

Parent and family vulnerabilities towards online victimization have begun to be recognized, and findings appear consistent with vulnerabilities towards sexual abuse offline. Research has identified several protective factors against online grooming within the parent and family dimension which include parental monitoring of the young person's internet use, the young person's awareness of this, and supportive parent relationships. While tentative links have been made between low socioeconomic status and offline child sexual abuse, research surrounding socioeconomic status and online grooming is inconclusive. However, there is some evidence to suggest that those from higher socioeconomic groups are more likely to be approached by groomers, due to higher levels of access; but they are also more likely to be resilient and resist the grooming. However, findings should be interpreted with caution due to the limited volume of research and further investigation is required to ascertain more conclusive results.

Community vulnerabilities to online grooming appear reasonably consistent with community vulnerabilities towards offline sexual abuse, such as social isolation and weak or limited peer support. Additionally, the impact of living environment in relation to offline abuse is well researched, but is considerably under researched regarding online grooming.

Steps have been taken towards comparing rural and urban areas, suggesting that those in rural areas may be at increased risk, but conclusions remain uncertain.

With regard to the cultural level of vulnerabilities, although variations of offline child sexual abuse between countries are acknowledged, ethnicity and nationality is considerably under explored for both offline sexual abuse and online grooming. Conclusions from the limited research cannot currently be drawn; therefore, further exploration is required to ascertain any links between nationality or ethnicity and online grooming.

10. Limitations

Much of the research in this area talks about sexual harassment or solicitation, fewer studies use the word 'grooming' and it may be inaccurate to assume that all instances where sexual abuse online takes place are 'grooming' (Soo, 2012). Much research measures the number of sexual solicitations online, rather than the number of young people that responded to the approaches and were groomed thereafter. This results in comparison difficulties between papers and tentative conclusions about online grooming. Additionally, methodologies and samples differ drastically. Although research is growing in this field, very little research draws upon UK samples; therefore, potential differences among UK young people should be anticipated.

11. Conclusions

The internet offers young people extensive opportunities and has many positive uses, however, as this review highlights, some young people are at risk of being vulnerable to online grooming and require protection. Simply because a young person is within the family home does not mean they are not at risk of harm and parental involvement with a

young person's use of the internet is a key protective factor. Therefore communication between parents and their children about the internet should be encouraged. The Ecological Model (Bronfenbrenner, 1979) highlights the interconnecting factors that influence young people. Consequentially, parents cannot protect their children in isolation, particularly given the portable nature of technology. The community, through schools, can offer protection by delivering internet safety education and wider society, in the form of internet service providers and website hosts, can also accept some responsibility in protecting young people online by ensuring their services are as protective as possible.

While children's use of the internet continues to grow (Livingstone & Haddon, 2009), research into sexual offenses involving the internet is at a rudimentary stage and requires further investigation (Briggs, Simon, & Simonsen, 2011; Ybarra & Mitchell, 2008). There are few studies examining which young people are at greater risk of being groomed online (Quayle et al., 2012), and there is a need for research that reports the perspective of the young victims (UKCCIS, 2012). It should be noted that the aim of such research should not be to create victim profiles or attempt to categorize victims in anyway. Instead, the aim should be to explore vulnerabilities and risk factors that are influencing the young person and may have led to their grooming experience, for the purpose of informing good practice guidelines. These factors contribute to aspects of the individual, but are by no means the sum of that person.

Such research would have positive implications for professionals working in this field, by extending their knowledge of vulnerabilities of child victims of online grooming. Additional information regarding victim vulnerability may assist preventative education campaigns in creating appropriate messages and ensuring the most vulnerable young

people receive this vital education. Furthermore, professionals in after care and therapeutic services are likely gain insights from findings relating to victim coping strategies. The perspective of an individual who has experienced the services provided by law enforcement will undoubtedly provide a fresh outlook and feedback that can be utilized by officers.

Technology is a permanent feature of society and, "all aspects of social, cultural, economic and political life thus stand to be affected by the continued massive growth in electronic technologies" (Woolgar, 2002, p. 1). It is appropriate that research catches up with the technological pace of change to protect young people from the risk.

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Figure 1.

The Ecological Model (Belsky, 1980)

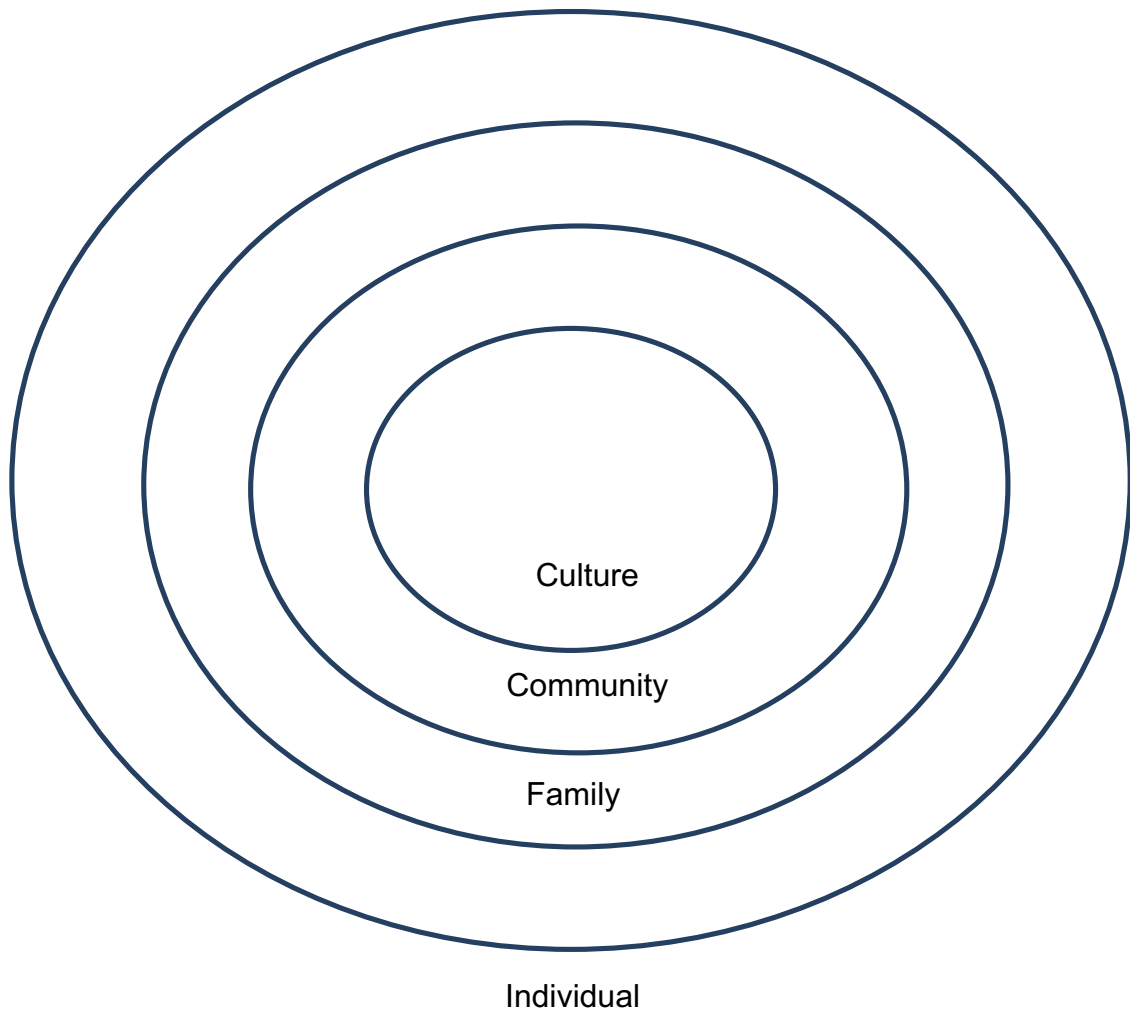


Table 1.

A summary of the possible risk and protective factors for online grooming, based on the literature in this review, highlighting consistencies and inconsistencies between online and offline factors using an ecological approach.

	Risk Factors	Protective Factors
Individual	Offline & Online	Offline & Online
	Female Confusion around sexual orientation Low self esteem Mental health problems Social isolation/loneliness Risk taking behaviours Disability Personality traits unknown Previous victimisation	Emotional stability High self esteem Social support Non risk taking behaviour
	Online Only	Online Only
	Adolescents Frequent internet access	
Family	Offline & Online	Offline & Online
	Conflict with parents Single parent or reconstituted family Low satisfaction with family Parental substance abuse Lack of family cohesion Poor family relationships Socio-economic status unknown, but possibly low SES or poverty influences	Supportive relationship with parents
	Online Only	Online Only
	Parental failure to monitor online activity Lack of parental involvement with the internet	Parental internet monitoring Young person's awareness of parental internet monitoring Parental involvement with internet High parental education
Community	Offline & Online	Offline & Online
	Social isolation Possibly problems with school Possibly dissatisfaction with school Possibly low intelligence Weak or limited peer	High life satisfaction regarding support from peers

	support	
	Online Only	Online Only
	Possibly rural areas but largely unknown	
Culture	Offline & Online	Offline & Online
	Largely unknown	Largely unknown
	Online Only	Online Only
	Largely unknown	Largely unknown