DIFFERENTIATE AND CONQUER:
ASSOCIATIONS BETWEEN SELF-OTHER DIFFERENTIATION AND ADAPTIVE CAPACITY IN CLINIC-REFERRED AND TYPICALLY DEVELOPING ADOLESCENTS

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ABSTRACT

Differentiate and Conquer: Associations Between Self-Other Differentiation and Adaptive Capacity in Clinic-Referred and Typically Developing Adolescents

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This study investigates associations between self-other differentiation (the ability to distinguish and coordinate the self and other perspective during social problem-solving) and specific ego functions (reality testing, judgement, sense of reality, object relations, and synthetic-integrative function) from a cognitive perspective in two groups of adolescents aged 12 to 18 years. One group was referred for mental health problems (clinic-referred, $n = 129$) and the other was a typically developing comparison group (control, $n = 184$). Clinic-referred adolescents scored significantly lower in both self-other differentiation and ego functions compared to nonclinic-referred adolescents, suggesting a potential relation with adolescent mental health. While self-other differentiation was generally associated with ego function, no moderating effect of clinic referral was observed. Findings suggest a link between self-other differentiation and different aspects of judgement (the ability to anticipate consequences, understand reactions, and learn from past mistakes).

Keywords: social problem solving, interpersonal negotiation strategies, self-other differentiation, ego function, adolescence, mental health problems

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Glossary

Adaptive Capacity	An individual's ability to adjust to their external environment, particularly in the context of mental health, social relationships and interpersonal conflict.
Ego Functions	Higher-order personality functions that help individuals manage their interactions with their environment.
Reality Testing	The ability to differentiate between internal thoughts and external reality to ensure a clear understanding of what is real in a given situation.
Judgement	A cognitive and behavioural function that involves the ability to anticipate the consequences of one's actions, make informed decisions about behaviour and learn from previous experiences.
Sense of Reality	The capacity to maintain a stable sense of self and consistent perception of oneself and the boundaries between oneself and environment.
Object Relations	Internalized relationships with others, including the ability to maintain healthy emotional connections and understand others as separate individuals with their own distinct identities.
Synthetic-Integrative Functioning	The ability to integrate conflicting thoughts, emotions, and perspectives into a coherent whole.
Self-Other Differentiation	A cognitive and interpersonal ability to distinguish between and coordinate one's own perspective and the perspectives of others.

Differentiate and Conquer: Associations Between Self-Other Differentiation and Adaptive Capacity in Clinic-Referred and Typically Developing Adolescents

Overview

Social problem-solving refers to an individual's capacity to find solutions to social conflicts that preserve the relationship (D'Zurilla et al., 2004; Kasik, 2015; Sumi, 2011). An essential aspect of this process is the ability to differentiate between one's own perspective and the perspective of others; known as self-other differentiation. Self-other differentiation involves a complex interplay of cognitive and interpersonal functions, which can influence successful conflict resolution with peers. Ego functions as described by (Bellak & Goldsmith, 1984) are core capacities that allow individuals to adaptively engage in cognitive and interpersonal activities such as reality testing (discerning internal thought from external reality), judgement (reasonable decision-making), and synthetic-integrative functions (the ability to integrate conflicting thoughts or concepts). When examined from a cognitive perspective, certain ego-functions may be linked to self-other differentiation and play an important role in social problem-solving. Successful conflict resolution in peer relationships holds particular significance for mental well-being during adolescence (Lee et al., 2004; Oberle et al., 2010; Swords et al., 2011). It is possible that adolescents with mental health problems have difficulty engaging in self-other differentiation, making social problem-solving difficult, which puts peer relationships at risk (Barley, 2006; Im-Bolter et al., 2013; Pile et al., 2017). This difficulty with self-other differentiation could be related to difficulties adaptively engaging in ego functions. Understanding these difficulties is key to informing intervention strategies aimed at addressing specific cognitive and social challenges in social problem-solving for adolescents with or without psychological disorders. The goal of the current study is to examine whether self-other differentiation during social problem-solving is associated with ego functions in adolescents, and whether this association is different

for clinic-referred adolescents.

Social Problem Solving in Adolescence

Adolescence is a phase of development characterized by significant and rapid changes in physical, cognitive, and emotional aspects of the individual (Santrock, 2016). One of the most salient features of adolescence tends to be the broadening of the social world as they spend more time with peers at school, work, and participating in extra-curricular activities. As adolescents strive for increasing autonomy and orient themselves away from family, the influence and importance of peer relationships also increases as they turn to peers as their primary source for social and emotional support (Rathus, 2011; Santrock, 2016). Adolescent interpersonal relationships are an essential factor in identity development (Erikson, 1968; Grotevant & Cooper, 1985), development of social competence (Crick & Dodge, 1994; Dodge et al., 1986), emotional regulation and resilience (Compas et al., 2014; Hartup, 1996), and mental health (Brown & Larson, 2009; Hartup, 1989; Sapra, 2019). In particular, interpersonal relationships in adolescence provide an important avenue for the further development of essential social skills such as conflict resolution (Berndt, 1982; Berndt et al., 1986; Hartup, 1989, 1996; Nelson & Aboud, 1985) that can be generalized to work and romantic relationships (Guo et al., 2021; Vera et al., 2004). This has far-reaching implications for academic success, professional progress, and psychological well-being (Guo et al., 2021; Herrenkohl et al., 2020; Sapra, 2019; Vera et al., 2004).

Conflict in interpersonal relationships is a common and expected facet of the human experience that individuals frequently encounter in different situations and contexts. How an individual goes about navigating those conflicts determines how relationships are developed and maintained, and how the individual functions within a social group. Particularly in the context of adolescence, the expansion of social circles and increasing complexity of social dynamics brings

new and greater exposure to a wide range of other perspectives, opinions, and interests which will require effective application of a range of social problem-solving skills to navigate successfully. The cognitive and behavioural process through which an individual analyzes, interprets, and resolves interpersonal conflicts with others is referred to as social problem-solving (Nezu et al., 2012).

Yeates and Selman (1989) proposed an integrative model for social problem-solving that combines functional (quantity of problem-solving strategies) and structural (interpretation of social interactions) approaches. This integrative model outlines four steps in the process of social problem-solving: 1) problem identification, 2) strategy generation, 3) strategy evaluation, and 4) conflict resolution. The first step involves recognizing that a problem exists to be solved (problem identification) and also entails understanding the emotions of the parties involved in the social conflict. The second step requires brainstorming potential solutions or strategies that could resolve the conflict (strategy generation). Once potential solutions have been generated, the next step is to evaluate these options in terms of their feasibility, potential consequences, and the extent to which they satisfy the goals of all parties involved in order to choose the best solution (strategy evaluation). Strategy evaluation also requires the consideration of the emotions of the parties involved when the best solution is applied. After choosing the best solution, the fourth and final step involves assessing whether both parties are satisfied with the solution and the relationship is preserved (conflict resolution). Selman and his colleagues (Selman, 1980; Yeates et al., 1991) also proposed that social problem-solving develops over time beginning in early childhood and requires the coordination and differentiation of the self perspective from the other perspective (self-other differentiation). Self-other differentiation is a complex process that is demonstrated to varying degrees between individuals, but also across developmental stages. Selman (1980) proposed four developmental levels of self-other differentiation that occur from

early childhood to late adolescence.

Self-Other Differentiation

According to Selman (1980) the first level (0 or egocentric) is typically observed at 3 to 6 years. At this level there is very limited differentiation between the self and other perspective as well as a lack of distinction between external actions and internal emotions. This results in the thoughts and feelings of others to be perceived as the same as one's own. The second level (1 or unilateral) is typically observed at 5 to 9 years and marks the beginning of recognizing the difference between observable behaviours and internal states. There is also the differentiation between the self and other perspective at this level, albeit with a primary focus on the self perspective during social problem-solving, which reflects an inability to coordinate both perspectives. The third level (2 or reciprocal) is typically observed at 7 to 12 years and there is now not only the ability to differentiate between the self and other perspective, but also the ability to coordinate both perspectives simultaneously. This allows the individual to consider that the opinions, feelings, and behaviours of both parties may influence each other during a social conflict (Selman et al., 1986). At the fourth and last level (3 or collaborative), typically observed by adolescence, the ability to adopt a third-person perspective emerges, allowing the evaluation of the social conflict from an impartial viewpoint. Both sides are considered and there is collaboration and integration of the needs of both parties. Yeates et al. (1991) noted that differences in developmental pace or environmental factors (i.e. parenting styles, family dynamics) allow for instances of this advanced level of self-other differentiation to sometimes be seen as early as 8 to 10 years of age, however, it typically does not develop until at least the age of 15.

Self-other differentiation necessarily influences successful interpersonal interactions since the ability to understand the other person's perspective, as well as the coordination of the self and

other perspective is more likely to lead to successful conflict resolution with peers. However, another potential contributor to successful interpersonal interactions is ego functions, a higher order personality characteristic proposed to assist in adaptation to the external world (Bellak & Goldsmith, 1984). When examined from a cognitive perspective, certain ego-functions may be associated with self-other differentiation and therefore, social problem-solving.

Ego Functions

Contemporary ego psychology views ego functions as the executive branch of personality; focusing on its relation to other aspects of personality and the external environment (Lesser & Pope, 2007). When approached in this manner, ego functions can be conceptualized as the building blocks for adaptive capacity and the ability to modulate responses to both internal and external stimuli to coordinate mental processes to the external world (Goldstein, 1995; Tsarfati, 2017). Bellak et al. (1973; 1975; 1984) proposed 12 major ego functions: (1) *reality testing*–the ability to accurately perceive and differentiate between external reality and internal experiences; (2) *judgement*–the ability to logically anticipate the consequences of one's actions, understand others' reactions, and learn from past mistakes; (3) *sense of reality of the world and self*–the ability to feel connected to the real world and maintain a consistent sense of identity and personal boundaries; (4) *regulation and control of drives, affects, and impulses*–the ability to appropriately express and manage impulses, tolerate frustration, and delay gratification; (5) *object relations*–the quality and depth of interpersonal relations, including the ability to understand others' emotions and needs, and the ability to tolerate loneliness, separation, and loss; (6) *thought processes*–the ability to use memory, concentrate, think abstractly, conceptualize, use language effectively, and communicate clearly; (7) *adaptive regression in service of the ego*–the ability to relax control in order to enjoy and allow ideas and fantasies to surface, fostering imagination, play, humour, creativity, and inventiveness; (8) *defensive functions*– the

effectiveness of defense mechanisms in managing emotions, compulsions, and disturbing thoughts; (9) *stimulus barrier*–the sensitivity, excitability, and tolerance for sensory stimuli such as noise, light, odours, pain, etc.; (10) *autonomous functions*–the ability to cognitively and intellectually use psychomotor skills; (11) *capacity to synthesize and integrate*–the ability to organize, plan, and work coherently, integrating various circumstances, concepts, and perspectives even when they are contradictory; and (12) *mastery-competence*–the ability to actively manage life based on realistic evaluations of one's skills and capabilities.

Although the 12 ego functions can be described individually, they are not wholly independent of one another and are understood as an interrelated system of operations, for example, adaptive judgement requires both sound reality testing and good impulse control (Bellak & Goldsmith, 1984). As a result, one ego function may impact others and despite being interrelated it is possible for some ego functions to be impaired while others remain intact (Bellak & Meyers, 1975; Zayas & Katch, 1989). For the purposes of the current study, the focus will be on reality testing, judgement, sense of reality and self, object relations, and synthetic-integrative functions because, by definition, each of these concepts require the individual to consider another perspective to some extent, thus making them more directly tied to self-other differentiation in comparison to other ego functions that involve more self-directed processes (e.g. impulse control, autonomous functioning).

Reality Testing

The ability to distinguish between, and accurately interpret, what is real and what is not is referred to as reality testing. This is influenced by past experiences and existing mental attitudes (e.g., what do I want to accomplish?) that may influence the focus of attention (Arlow, 2018; Goldstein, 1995). Reality testing allows the maintenance of clear boundaries between inner experiences and the external environment so the situation is perceived objectively. From a

cognitive perspective, reality testing is the process of evaluating external information against internal schemas to determine what is imagined and what actually exists; involving cognitive processes like perception, memory, and reasoning. Bellak et al. (1973; 1984) posit that reality testing is made up of three components: (a) the distinction between inner (mental states or schema) and outer world; (b) accuracy of perception (degree of focused attention to an external event); and (c) accuracy of inner reality testing (introspection and self-reflection).

Judgement

Judgement is both a cognitive and social function concerning an individual's capacity to appreciate their interaction with their external environment (Bellak & Meyers, 1975). It involves higher-order cognitive processes such as critical thinking and reasoning which contribute to the individual's ability to anticipate the likely implications of their actions and weigh the appropriateness of an intended or actual behaviour (Cabaniss et al., 2010; Goldstein, 1995). Judgement also reflects the extent to which one's actions reflect that awareness by engaging in behaviour directed at achieving a desired goal with minimal negative consequences (Cabaniss et al., 2010; Goldstein, 1995). 'Good' or 'bad' judgement is not necessarily a general quality in that an individual may exercise good judgment in specific circumstances but be far more variable in their overall ability to adaptively cope with other circumstances (Goldstein, 1995). In a social context, sound judgement ensures that an individual respects social norms and others' personal boundaries to avoid conflict and facilitate positive interpersonal interactions. Inappropriate behaviour–relative to the individual's specific cultural or environmental setting–can be considered the result of poor judgement (Bellak & Meyers, 1975). Similarly to reality testing, Bellak and Goldsmith (1984) describe that judgement also matures with development; dependent on the evolution of cognitive processes and repeated interpersonal and person-environment experiences. According to them, judgement involves three components: (a) the awareness of

consequences (capability to predict potential outcomes and consequences of actions); (b) manifest behaviour reflecting awareness of consequences (translation of one's knowledge potential consequences into actions in accordance with that knowledge); and (c) appropriateness of behaviour (social-emotional alignment suitable to the given context).

Sense of Reality and Self

Sense of reality of the world and of the self refers to one's objective orientation towards the world and oneself including the ability to perceive oneself as part of the real world based on external rather than internal factors. It involves possessing a clear and distinct identity with a stable self-concept and self-worth and defined personal boundaries between the self and environment (Juni & Straehle, 2002). From a cognitive perspective, sense of reality and self involves a continuous feedback loop between perceptual processing, memory, and self-perception. Bellak et al. (1973; 1984) describe sense of reality and self as made up of four components: (a) the degree to which external events are perceived as real and embedded in a familiar context; (b) a sense of body image; (c) a sense of individuality, uniqueness, self, and self-esteem; and (d) the extent to which self-representations are distinct from representations of others.

Object (or Interpersonal) Relations

Object relations refer to the quality and pattern of an individual's interpersonal relationships and their internalized sense of the self and others (i.e. schemas), requiring processes such as memory and emotional processing. It involves the ability to sustain relationships that are stable, intimate, and empathetic wherein an individual sees others as whole and distinct beings, separate from themselves (Cabaniss et al., 2010). An important aspect of object relations is the process of developing an internalized sense of self and others (Goldstein, 1995). Bellak et al. (1973; 1984) described object relations as being made up of four components: (a) degree and

kind of relatedness to others; (b) influence of past relationships as adaptive or maladaptive patterns of behaviour; (c) perception of others as separate or autonomous entities with their own thoughts, feelings, and identities; and (d) object constancy or attachment and maintenance of emotional bonds despite physical absence.

Synthetic-Integrative Functioning

Synthesis-integration is a higher-order function that works to bind and coordinate all the disparate aspects of one's personality, thoughts, emotions and behaviours into one unified and cohesive structure that can act upon the external world despite the presence of potentially conflicting or contradictory elements (Goldstein, 1995). Synthesis-integration allows the individual to manage diverse aspects of their internal and external experience to function in a consistent manner throughout everyday life; finding balance between conflicting values or desires, and managing complex relationships between emotion and behaviour (e.g. feeling anxious but acting confident in a social setting; (Juni & Straehle, 2002). Synthesis-integration can be viewed as critical for effective problem-solving and decision-making because it allows the individual to consider multiple perspectives, concepts, and demands while maintaining their own worldview. Synthesis-integration is complex and recruits a number of cognitive processes such as memory, cognitive flexibility, pattern recognition, abstract reasoning, and inference-making. A certain degree of metacognition is also required to monitor integration processes and assess completeness of synthesis. Bellak et al. (1973; 1984) described two main components of synthetic-integrative functioning as: (a) the ability to reconcile incongruities, and (b) active coordination of external behaviors and internal affects.

Ego Functions and Self-Other Differentiation During Social Problem-Solving

There is a substantial conceptual overlap between these ego functions and self-other differentiation as described by Selman and colleagues' (1980; 1989) integrative model of social

problem-solving. Both appear to involve similar cognitive processes that are thought to contribute to understanding and navigating social situations. According to Bellak et al. (1973; 1984), reality testing involves an accurate interpretation of one's external environment and coordination with one's internal affective state. In social contexts, understanding the reality of a social situation (rather than a biased or distorted view) is important toward making effective decisions regarding how best to resolve conflict, and is required during the process of successful social problem-solving (e.g., considering the problem from both perspectives and whether the problem has been resolved to the satisfaction of both parties). Since reality testing relies on the interpretation of social cues and the ability to ascertain others' intentions, understanding the other perspective affords the individual a broader understanding of the dynamics of a social interaction and helps the individual avoid misinterpretations that may otherwise result from a more self-centered (i.e. egocentric or unilateral) view. By extension, it is reasonable to conclude that self-other differentiation may contribute to ensuring reality testing remains intact; grounded in the consideration of both the self and other perspective when assessing the interaction or conflict. For example, in Yeates & Selman's (1989) egocentric stage–wherein children often believe that others' thoughts and feelings are the same as their own–can be viewed as representing a conflation of one's subjective experiences with objective reality, which may result in distorted perceptions. In the unilateral stage, while the child may have some limited recognition of the other perspective, the focus is on the self perspective. This may result in the individual not fully grasping the complexity of the other perspective, perhaps acknowledging that the other perspective is different but not understanding why. This could lead to inaccurate or oversimplified interpretation of others' motivations and social cues, resulting in an inaccurate interpretation of the objective reality of the given social interaction.

Judgment involves predicting the outcome of contemplated actions and deciding the

suitability of the potential behaviour options (Bellak & Goldsmith, 1984; Juni & Straehle, 2002). In social contexts, good judgement requires understanding of the likely impact of one's actions on others; therefore one could reasonably argue that without self-other differentiation of perspectives, judgement would be compromised. At less-mature stages of self-other differentiation (egocentric or unilateral), there may be a limit to the extent that an individual is able to accurately predict cause-and-effect relationships. This would result in the individual not fully appreciating the consequences of their actions on others leading to poorer judgement. In contrast, at more mature stages of self-other differentiation the individual is more likely to understand the potential impact of their behaviour on all parties involved. At the highest level of self-other differentiation, the ability to take on broader social or cultural perspectives may allow a deeper understanding of how one's behaviour fits within larger societal norms, both of which are needed to properly inform the appropriateness subcomponent of judgement.

Sense of reality relies on self-awareness and the ability to understand and maintain a stable sense of self and the environment. In order for the individual to reflect on their own thoughts, feelings and sensations to maintain that coherent sense of reality and identity, a certain degree of metacognition is required. In social contexts, failure to recognize the expectations and constraints imposed by others can lead to difficulty navigating social situations, particularly conflict. Further, a balanced sense of reality also necessarily includes an understanding of oneself in relation to others. It is therefore reasonable to believe that self-other differentiation is important to informing one's sense of identity and reality through the extent to which one is able to gauge how others perceive and interact with them.

Bellak and Goldsmith (1984) describe that object relations involve the mental representations of others, and the relationships formed with them. Cognitive paradigms would describe this as being the interpersonal schemas that individuals develop about others. In social

contexts, these mental representations would act as guides for social interactions. It is therefore reasonable to believe that more mature self-other differentiation would facilitate more complex and differentiated internal representations of others, particularly at the highest level (collaborative) with consideration for the future of the relationship when resolving instances of social conflict.

Synthetic-integrative functions involve the ability to synthesize information from different sources and integrate it into a coherent whole. In social contexts, successful social problem-solving depends on the synthesis and integration of the self and other perspective to arrive at a successful solution. It is therefore reasonable to believe that self-other differentiation is important for synthetic-integrative functions given that the extent to which an individual is able to understand, differentiate, and coordinate different viewpoints is somewhat inherent to synthesis and integration of diverse and often conflicting aspects of thought, emotion, and behaviour.

Self-Other Differentiation, Ego Function, Conflict Resolution and Mental Health

Potential associations between self-other differentiation, ego functions, and mental health problems are multifaceted and reciprocal, as well as subject to both individual differences and the nature of the problems experienced. Adolescents with mental health difficulties tend to face challenges forming and maintaining peer relationships. They tend to have fewer friends, and the friendships that they do have are less stable over time (Hartup, 1996; Sapra, 2019). Selman (1980) notes that clinically referred children have a significantly less-mature understanding of the reciprocities and intimacies that friendships entail compared to typically developing peers. It is likely that difficulties with self-other differentiation contribute to deficits in conflict resolution, which translate into problems maintaining healthy interpersonal relationships; a well-documented risk factor for mental health challenges (Donaldson & Lam, 2004; Maag, 2006). Since mental health challenges have also been demonstrated by the literature to impede problem-solving

processes and the maintenance of healthy relationships, it is easy to see how a destructive feedback loop may occur (Jiang et al., 2016; Ruan et al., 2022). In a similar vein, the quality and efficacy of an individual's ego functions is related to the ability to manage internal and external demands (Berg, 1990). Since ego functions enable the individual to manage their emotions and impulses to handle conflict, make sound decisions to navigate complex social situations, and maintain a stable sense of self (Cabaniss et al., 2010), individuals with high ego strength may be thereby better equipped to successfully resolve social conflict and maintain the healthy relationships that are so critical to mental health in adolescence.

An extensive body of literature has also documented a more direct association between ego function and mental health disorder. For example, Bellak (1973) describes the association between deficits in sense of reality of the world and the self with dissociative states, depersonalization, and derealization. Disturbances in this function also manifest in certain distortions of body image, as seen in conditions like anorexia nervosa, or may result in the loss of sense of boundaries between the self and other, as seen in some individuals' experience of 'merging' with a partner in intense unhealthy relationships. Narcissistic personality disorders along with other issues with self-esteem are also implicated. Deficits in object relations characterize problems with anxiety and attachment, and more severe impairments in object relations and quality of interpersonal relationships are common in individuals with borderline, narcissistic, and schizophrenic conditions. Severe breakdown in reality testing is exemplified by the delusions and hallucinations experienced by individuals with schizophrenic conditions (Bellak & Meyers, 1975). Both Bellak (1973) and Goldstein (1995) further describe that many disorders can be reliably characterized by specific combinations of strengths and/or weaknesses in various particular ego functions, e.g. the conjunction of good capacity for reality testing and poor sense of reality is common in borderline conditions; individuals with obsessive compulsive

conditions may have strong reality testing and judgement which allow them to recognize that their obsessions and compulsions are irrational, but despite that awareness they have poor impulse control (regulation and control of drives, affects and impulses) and an over-reliance on defensive functions.

The Current Study

A common theme in the literature reviewed above suggests that both self-other differentiation and ego functions may influence successful conflict resolution, which we know is important for interpersonal relationships in adolescence and mental health. While previous research indicates that self-other differentiation and ego functions may each be independently associated with social problem-solving and social-cognitive development, the relation between these constructs has been generally ignored, particularly in adolescents experiencing mental health problems. The present study seeks to address this gap; simultaneous examination of Selman and colleagues' (1980, 1989) self-other differentiation and ego function as described by Bellak and colleagues (1973;1984) could be helpful in understanding contributors to successful social conflict resolution. Adolescents experiencing mental health challenges who are referred to mental health clinics often struggle with social relationships and are frequently referred to social skills programs as part of an intervention effort (Zadeh et al., 2007). These programs usually follow a social-cognitive model that focuses on enhancing conflict resolution via strategy generation. Incorporating self-other differentiation and healthy ego function as important contributing factors to adaptive social functioning may inform and bolster these intervention efforts. As such, the current study will examine the contribution of self-other differentiation and ego functions to social problem solving and whether this differs in adolescents referred for mental health problems compared to their non-referred peers.

It is hypothesized that:

(1) Adolescents who have been clinically referred for mental health problems (e.g., depression, behaviour problems) will show lower ego function scores compared to their peers without mental health concerns. Adolescence is a period wherein an individual's cognitive, emotional, and social capacities undergo rapid and significant change. Among these capacities, ego functions such as reality testing, judgement, object relations, sense of reality, and synthesis-integration which are central to adaptive functioning are important to maintaining peer relationships that promote healthy development and mental well-being (Goldstein, 1995). Mental health challenges have been associated with difficulties engaging in self-other differentiation in adolescents (Im-Bolter et al., 2013) and links have been repeatedly established between mental health challenges and ego function deficits in adulthood (Bellak et al., 1973), therefore it is reasonable to anticipate a similar link in adolescence. Unlike adults, adolescents may still be earlier in the process of learning and internalizing effective coping mechanisms and self-regulation strategies, therefore the ongoing development of these skills may result in lower overall ego functioning that differs from the specific disorder-related variations seen in adults.

(2) Self-other differentiation will be positively correlated with ego functions in both groups, though the association may be less pronounced or consistent for adolescents referred for mental health problems. Since self-other differentiation is closely tied to social problem-solving (Schultz et al., 1989; Yeates et al., 1991), and certain ego functions such as judgment, object relations, and synthetic-integrative functions are conceptually related to problem-solving processes, it stands to reason that individuals who are better able to differentiate between the self and other perspective may also display more adaptive ego functioning. Further, previous research has suggested that non-clinical adolescents may demonstrate more mature self-other differentiation compared to adolescents referred to

mental health clinics (Im-Bolter et al., 2013), therefore an association between self-other differentiation and ego functions may be weakened in the presence of factors such as psychopathology that interfere with the ability to effectively coordinate multiple perspectives. Additionally, increased variability in development between individuals in the clinic-referred group compared to a typically developing control and a broader range of ego functioning and may also result in less predictable associations with how specific ego functions may interact with self-other differentiation.

Method

Participants

The present study was part of a larger study that investigated language and social cognition in adolescents referred for mental health services and a control group from the same surrounding area. The sample consisted of 331 adolescents between age 12 to 18 years divided into two groups: those who were clinically referred for mental health services (clinical, $n = 144$) and those who were not (control, $n = 187$). All participants received a $20 gift certificate and 5 volunteer credit hours toward completing standard secondary school community service requirements for graduation.

Clinic-Referred Group

The clinical group was drawn from 219 consecutive referrals to two outpatient mental health centers in downtown Toronto funded by the Ontario Ministry of Children and Youth Services and the Ontario Ministry of Health, reflecting typical referrals for psychiatric services in the area. Out of the 219 referred adolescents, 144 (66%) agreed to participate in the study. Intake information indicated that reasons for referrals for psychiatric services generally included symptoms associated with depression, hyperactivity, oppositional defiant disorder, and conduct disorder. Participants and non-participants were compared on the *Brief Child and Family Phone*

Interview (BCFBI; Boyle et al., 2009), an abbreviated version of the *Child Behavior Checklist* (CBCL; Achenbach & Rescorla, 2001) to gather information about the type and severity of emotional and behavioural problems experienced. Adolescents that participated in the study did not differ significantly in the frequency or severity of symptoms associated with depression, hyperactivity, or conduct problems, although adolescents who participated in the study were more likely to be rated by their parents as showing more oppositional-defiant symptoms than non-participants ($\chi^2 = 3.73$, $p < .05$). Participants and non-participants did not differ with respect to socioeconomic status. Participants were excluded if they: a) had a previously diagnosed neurological, developmental, or learning disorder; b) were presently receiving special education services; c) were a recent immigrant to Canada or did not consider English to be their first language; d) had an estimated intelligence score below 80; or e) had experienced serious brain injury.

Control Group

The control group included 187 adolescents recruited from same downtown Toronto area via flyers placed in community centers near the mental health centers along with advertisements in a local newspaper. An initial screening interview with potential participants for the control group occurred via telephone to rule out individuals who had received or were receiving clinical services for mental health problems. Participants recruited for the control group were excluded if they were receiving mental health services or had clinically significant scores on a measure of mental health problems or met the other exclusion criteria mentioned above.

Procedure

Adolescents and their caregivers were seen in individual private sessions. Once informed consent and assent were provided, adolescents were administered measures of intelligence, structural and figurative language, self-other differentiation during social problem solving, and

ego functions, along with other measures not relevant to the current study. Previous research supports that core language ability, socioeconomic status (SES), and IQ are involved in many social-cognitive factors, therefore they were considered as control variables for the current analysis (Im-Bolter et al., 2013). Caregivers were interviewed for background and demographic information and completed questionnaires that measured external ratings of the adolescents for mental health problems.

Measures

Socioeconomic Status

The *Blishen Socioeconomic Index for Occupations in Canada* (Blishen et al., 1987) was used to measure SES. This scale assigns a numerical value to different occupations based on average income and educational requirement. Professions requiring advanced education and offering higher salaries (e.g., judges and magistrates; physicians and surgeons; dentists) score toward the top of the scale. Professions that require minimal formal education and offer lower wages (e.g., service labourers; housekeepers; newspaper carriers) are ranked toward the bottom of the scale. The higher numerical score between the participant's mother and father was used as the representation of SES.

Estimated Intelligence

The Full Scale IQ score (a standardized scaled score) from the *Wechsler Abbreviated Scale of Intelligence* (WASI; Wechsler, 1999) was used to estimate intelligence. This scale includes four subtests: vocabulary, similarities, block design, and matrix reasoning The Full Scale IQ score on the WASI is considered to provide a reliable measure of general cognitive ability (Wechsler, 1999).

Language

The Core Language Score from the *Clinical Evaluation Language Fundamentals-Fourth*

Edition (CELF-4; Wiig et al., 2003), a widely used language test, was used as a measure of general language ability and provides a reliable way to quantify overall language performance. This language test is a standardized measure of oral language and provides a standardized score. The examiner's manual includes data supporting its high internal consistency (with Cronbach's alphas ranging from .90 to .95 across subtests) and test-retest reliability (ranging from .85 to .90).

Self-Other Differentiation During Social Problem Solving

The *Interpersonal Negotiation Strategies (INS)* interview (Schultz et al., 1989) was used as the measure of self-other differentiation during social problem solving. The INS interview is comprised of vignettes featuring hypothetical dilemmas that describe different interpersonal conflicts between two people of varying familiarity (e.g., friend vs. peer) and status (e.g., peer vs. employer). The dilemmas chosen for the current study portray a conflict with a friend (peer relationship) and an employer (adult of higher social status). The dilemmas were presented both orally and in text, then participants answered eight questions regarding the social conflict that measure the four steps of social problem solving described by Shultz et al. (1989). The interviews were recorded, then transcribed verbatim and double-checked for accuracy. Coders blind to study hypotheses and group designations then scored the responses from 0 (egocentric) to 3 (collaborative) to indicate the developmental level of the response using a detailed scoring manual (Schultz et al., 1989). Responses that involve physical or impulsive behaviour are considered to be Level 0, responses that reflect only one perspective such as from the protagonist or the antagonist's point of view are considered to be Level 1, responses that reflect the consideration of both perspectives are considered Level 2, and responses that reflect a third person perspective, as well as concern for the future health of the relationship are considered Level 3. Scores for each question are averaged to create an overall INS score. Results regarding self-other differentiation in this sample are reported elsewhere (Im-Bolter et al., 2013), but in

summary no differences were found between INS Dilemma 1 and Dilemma 2, so an average overall score combining both dilemmas was used for the present analyses.

Previous research has demonstrated that the INS interview is a valid and reliable measure of self-other differentiation during social problem-solving with high inter-rater reliability (Adalbjarnardottir, 1995; Adalbjarnardottir & Selman, 1989; Bailey & Im-Bolter, 2020), test-retest reliability (Adalbjarnardottir, 1995) and internal consistency (Selman et al., 1986).

Ego Functions

The Ego Function Assessment Scale (Bellak, 1989) was used to assess ego functions. This scale consists of 12 sub-scales representing the 12 ego functions identified by Bellak et al. (1973). It comprises 120 questions (10 in each domain) where the participants are required to rate each item on a 3-point scale ranging from 0 to 2 (0: Never, 1: Sometimes, 2: Often) relating to how often in the past month they felt or behaved in alignment with the question. Consistent with scoring procedures outlined by Bellak et al. (1973) and used by (Çakar, 2020; Durmaz & Ünsal, 2019), the mean score of the 10 questions in each domain was taken as the representation of the corresponding ego function score. This scale has been widely used in both clinical and non-clinical settings and has demonstrated strong test-retest reliability (Bellak et al., 1973), predictive validity (Juni & Straehle, 2002), and internal consistency across multiple samples (Bellak & Meyers, 1975).

Results

Data Screening

An exploratory analysis was conducted to identify outliers and examine parametric assumptions for all variables of interest using histograms, boxplots, and QQ plots. Core Language Index scores for both groups had a slight left skew suggesting that this variable was not normally distributed in either group. Given that a scaled score below 80 on the Core Language

Index may indicate an underlying language disorder, participants below that threshold (clinical *n* = 15; control *n* = 3) were then excluded from analysis, which corrected the skew and resulted in a final clinic-referred sample of (*n* = 129) and a final control sample of (*n* = 184). A Shapiro-Wilk test was also performed that showed the distribution of the language scores for the both the clinic-referred [$W(129) = .96$, $p < .001$] and control [$W(184) = .97$, $p < .001$] groups still departed significantly from normality, and Levene's test showed that variances for language scores were also not equal. The assumption of homogeneity was not met [$F(1, 311) = 11.33$, $p < .001$], therefore variance was not assumed to be equal for these analyses and appropriate corrections with the Hunh-Feldt adjusted *F* were made as needed. For multiple within-group comparisons, Bonferroni corrections were used.

Shapiro-Wilk tests further showed that clinic-referred group scores on the INS also departed from normality [$W(126) = .96$, $p = .001$], as did all ego function scores in both groups except for synthetic-integrative functions in the clinic-referred group [$W(123) = .98$, $p = .14$]. However, given that the INS and ego functions are developmental measures (a positive skew is expected, reflecting typical development), and further given the sensitivity of these tests to sample size, they were interpreted cautiously. After visual inspection of the boxplots, QQ plots, and histograms, it was determined that both sets of distributions were approximately normally distributed. For variables that violated sphericity, the Hunh-Feldt adjusted *F* was used, and Bonferroni corrections were used when conducting multiple within-group contrasts, etc. Consistent with previous research within this age range, most participants achieved scores within the 1 or 2 range of the INS, corresponding to unilateral and reciprocal problem-solving respectively. Outliers on this 0-3 measure were expected due to a combination of the relatively small range of the scale and natural developmental variation. The rate of development of individual adolescents' self-other differentiation may differ; some may still rely on more self-

centered approaches while others may develop more sophisticated approaches earlier than their peers, however with such a narrow scoring band even small deviations from central tendency may push a participant to the 'extreme' ends of the scale. Given that some adolescents will naturally achieve more advanced self-other differentiation, high scores are not necessarily indicative of errors or anomalies, and therefore they were not excluded from the analysis.

Group Characteristics

Analyses were conducted to search for any differences in demographic variables between groups that would need to be controlled for in subsequent analyses. Chi square analyses showed that the two groups did not differ with respect to gender [χ^2 (1, n = 313) = .06, p = .81]. There were 62 (48.06%) females in the clinic-referred group and 91 (49.46%) in the control group. One-way analysis of variance (ANOVA) was performed to check for group differences between age, SES, estimated IQ, and language ability. There were no significant differences between groups on SES or estimated IQ, however analyses indicated the two groups were significantly different with respect to age and language ability, see Table 1 for means and standard deviations. Participants in the clinic-referred group were significantly younger than the control group with a moderate effect size (d = .45), and participants in the clinic-referred group had significantly worse language ability than participants in the control group also with a moderate effect size (d = .33), therefore age and language were taken into account as covariates in relevant analyses. Note however, that mean language scores for both groups were within the average range.

A Pearson-product moment correlation analysis was used to examine relevant associations between the control and interest variables in the clinic-referred and control groups. For the clinic-referred group, age was associated with the INS (self-other differentiation; r = .24, p = .01), but not with any of the ego functions. Language was associated with the INS (r = .34, p < .001) and

Table 1

Descriptive Statistics of Group Differences for Age, SES, Estimated IQ, and Language.

	Group					
	Clinic-Referred (*n* = 129)		Control (*n* = 184)			
	M	*SD*	*M*	*SD*	*F* (*df* = 1, 293)	*p*
Age in Years (range)	14.72 (12.12-17.79)	1.46	15.36 (12.19-17.97)	1.34	17.94	< .001
SES (range)	66.19 (28-100)	21.72	70.37 (12-100)	21.13	5.82	.16
Estimated IQ (range)	105.80 (80-132)	11.98	106.84 (81-139)	11.19	1.56	.21
Core Language (range)	101.22 (81-129)	12.77	108.32 (84-130)	10.52	16.62	<.001

object relations (r = .19, p = .04). For the control group, age was not correlated with any variables of interest, but similar to the clinic-referred group, language was correlated both with the INS (r = .22, p = .003) and object relations (r = .18, p = .02). While ego functions are thought to be independent of age (Bellak & Goldsmith, 1984), reality testing, judgement, and object relations typically undergo development during childhood and early adolescence, therefore these functions may reach a plateau once a certain level of ego function has been achieved; this reduces the likelihood of observing age-related differences in this construct (Goldstein, 1995). Since the sample consists largely of mid- to late adolescents, this result is not entirely unexpected. Unsurprisingly, correlations were moderately strong between several ego functions in both groups which, although not the focus of the current analysis, does lend to the validity of these measures.

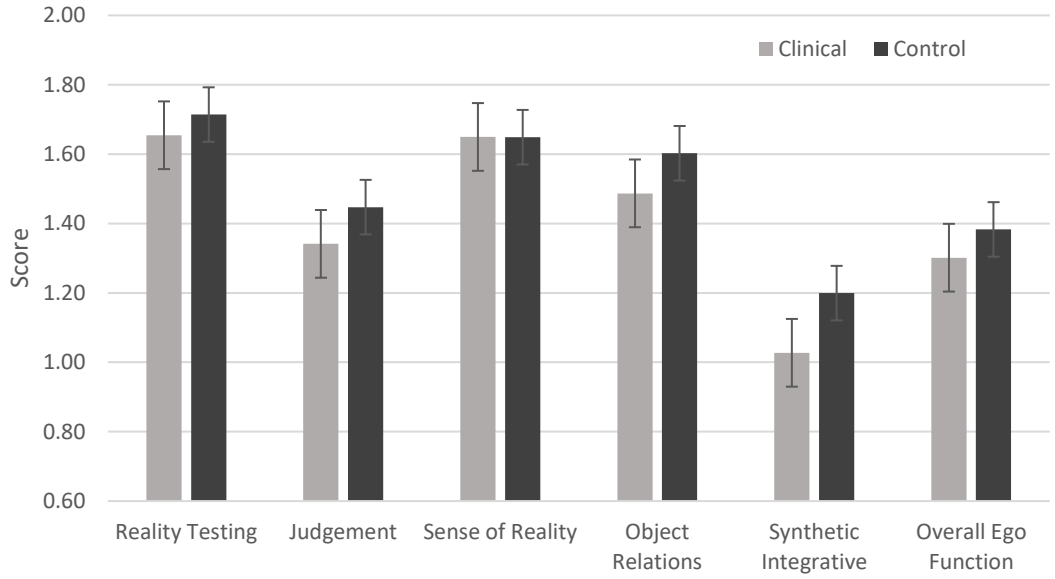
Group Differences

A multivariate analysis of covariance MANCOVA controlling for age and language ability was used to understand whether there were group differences between the clinic-referred and control groups in ego functions testing the hypothesis that ego function scores in the clinic-referred group would be lower than in the control group. Box's *M* test was significant [*F* (21,252006.497) = 2.01, $p = .004$], indicating a violation of the assumption of equality of covariance matrices. As such, Pillai's Trace was used instead to interpret the results due to its robustness against assumption violations. The analysis revealed a significant multivariate effect of group, [Pillai's Trace = 0.13, $F(6, 298) = 7.31$, $p < .001$, partial $\eta^2 = .13$], indicating that the clinic-referred and control groups differed significantly in their combined ego function scores after controlling for age and language ability, as seen in Figure 1. Group differences in self-other differentiation are reported elsewhere (Im-Bolter et al., 2013).

Follow-up univariate tests showed significant group differences in judgement [$F(1,303) = 3.13$, $p = .03$, partial $\eta^2 = .03$], object relations [$F(1,303) = 7.44$, $p < .001$, partial $\eta^2 = .07$], synthetic-integrative function [$F(1,303) = 9.01$, $p < .001$, partial $\eta^2 = .08$], and overall ego function [$F(1,303) = 9.83$, $p < .001$, partial $\eta^2 = .09$]. These results suggest that the clinic-referred group exhibited lower adaptive capacity in these specific domains compared to the control group as well as lower overall ego functioning; see Table 2 for means and standard deviations.

Figure 1

Estimated Marginal Means of Ego Function Scores Between the Clinical and Control Groups.



Note. Covariates appearing in the model are evaluated at Age = 15.09, Language Ability = 107.50. Error bars: 95% CI.

Table 2

Comparison of Ego Function Scores Between Clinical and Control Groups.

	Group						
	Clinical (n = 123)		Control (n = 184)				
	M	*SD*	*M*	*SD*	*F* (df = 1, 303)	*p*	partial η^2
Reality Testing	1.65	0.35	1.71	0.26	1.56	0.20	0.02
Judgement	1.34	0.38	1.45	0.35	3.13	0.03	0.03
Sense of Reality	1.65	0.32	1.65	0.26	1.25	0.29	0.01
Object Relations	1.49	0.32	1.60	0.27	7.44	<.001	0.07
Synthetic Integrative	1.03	0.31	1.20	0.27	9.01	<.001	0.08
Overall Ego Function	1.30	0.18	1.38	0.14	9.83	<.001	0.09

Associations Between Self-Other Differentiation and Ego Functions

It was expected that self-other differentiation during problem-solving would be positively related to ego functions in both groups, perhaps with a weaker association in the clinic-referred group. Consistent with the relations between age and the INS in the clinical group (r = .24, p = .01), along with the relations between language and the INS in both the clinical (r = .34, p < .001), and control (r = .22, p = .003) groups that were observed while exploring the data for covariates, previous research has suggested the influence of development and language ability on the sophistication of self-other differentiation during social problem-solving (Bailey & Im-Bolter, 2020; Im-Bolter et al., 2013). Therefore, a Pearson's partial correlation was used to ensure that self-other differentiation would independently explain any variance observed in ego functions after controlling for the effects of age and language. After partialling out age and language, one small positive correlation between judgement and the INS for the control group (r = .15, p = .05) was still observed, as seen in Table 3.

Since the Pearson's partial correlation analysis revealed a small significant correlation between judgement and self-other differentiation in the control group, this suggests the possibility that higher levels of self-other differentiation were at least marginally associated with better judgement after accounting for age and language proficiency in the control group. As such, a moderation analysis was conducted to examine whether the relationship differed between the clinic-referred and non-clinic-referred group. A linear regression model was used, with judgement as the dependent variable, and INS score, group (clinic-referred vs. control), and their interaction term (INS x Group) as predictors. The overall model was significant, explaining 2.9% of the variance in judgement after adjusting for the number of predictors [R^2 = 0.03, F(3,299) = 3.98, p = .008]. The main effect of self-other differentiation on judgement was significant [β = 0.41, t(299) = 2.31, p = .02], suggesting that better self-other differentiation was associated with better

judgement. However, there was no significant main effect of group on judgement (β = 0.41, $t(299) = 1.11$, $p = .27$), and the interaction between self-other differentiation and group membership was also not significant (β = -0.33, $t(299) = -1.37$, $p = .17$), indicating that while there may be a relation between self-other differentiation and judgement in the control group, the relation between self-other differentiation and judgement did not significantly differ between the clinic-referred and control groups.

Table 3

Pearson Correlations Among Self-Other Differentiation and Ego Functions in the Clinic-Referred and Control Groups After Partialling Out Age and Language.

	1	2	3	4	5
Clinic-Referred Group					
1. INS Dilemmas	-				
2. Reality Testing	.03	-			
3. Judgement	.05	.55**	-		
4. Sense of Reality	-.02	.71**	.50**	-	
5. Object Relations	.07	.46**	.41**	.40**	-
6. Synthetic-Integrative	.13	.39**	.37**	.30**	.44**
Control Group					
1. INS Dilemmas	-				
2. Reality Testing	.02	-			
3. Judgement	.15*	.49**	-		
4. Sense of Reality	-.01	.59**	.54**	-	
5. Object Relations	.09	.53**	.42**	.50**	-
6. Synthetic-Integrative	.07	.25**	.19*	.28**	.23*

Note. * $p < .05$; ** $p < .01$ (two-tailed).

Discussion

The goal of the current study was to examine group differences and associations between self-other differentiation during social problem-solving and ego functions in a sample of

adolescents clinically referred for mental health concerns and those who were not. The two hypotheses are partially supported.

Group Differences in Ego Function

The first hypothesis, that adolescents experiencing mental health problems would display lower ego function compared to adolescents not receiving any mental health services, is partially supported. Adolescents clinically referred for mental health problems demonstrate lower overall ego function scores on the specific ego functions of judgement, object relations, and synthetic-integrative functions than do their non-referred peers (even after controlling for age and language ability). Although reality testing and sense of reality do not differ significantly between the two groups as was expected, this result aligns with Bellak and colleagues' (1973; 1984) distinction between core and complex ego functions. Given that reality testing refers to one's capacity to distinguish between internal and external perception, it may be the case that these more fundamental perceptual functions are less-noticeably impacted by disturbances in mental health compared to more complex ego functions such as judgment, object relations, or synthetic-integrative functioning. Complex ego functions may be more vulnerable to interference since they are so heavily influenced by environmental, social, and developmental factors and that rely on more higher-order cognitive processes working together for effective operation.

For example, the anticipation component of judgement involves the capability of an individual to predict the potential outcomes of their future actions before taking them, which calls for some degree of understanding toward the probable social implications, legal ramifications, and possible risks to one's health or safety. In terms of cognition, such understanding involves comparing one's expectations with past experiences and memories relevant to the current situation to accurately anticipate the likely consequences of a given action. Often discussed in the context of critical thinking and executive function (Li et al., 2021), the connection between

factors that interfere with higher-order cognitive processes (e.g., stress, psychopathology) and maladaptive decision-making (i.e., poor judgment) is well-established (Gillis, 1993; Schuermann et al., 2011; Weiss et al., 2013). In contrast, a core ego function like reality testing is based largely on more basic perceptual processes that, unlike more complex ego functions such as judgement, are less context-dependent and more binary in nature (i.e., either the individual can either distinguish between internal and external or they cannot), rather than having a broader spectrum of performance (e.g. varying degrees of soundness to one's judgement).

It may also be the case that impairments in reality testing and sense of reality only become apparent beyond a certain threshold of dysfunction that our outpatient sample does not surpass, whereas deficits in judgement, object relations, and synthetic-integrative functions may manifest at lower levels of mental health disturbance and thus be more readily detectable (Goldstein, 1995). For example, Bellak and Goldsmith (1984) describe that breakdowns in reality testing are exemplified by hallucinations and delusions that are common in schizophrenic and other psychotic disorders, however our sample was referred for non-psychotic disorders such as conduct disorder, attentional difficulties, anxiety, and depression which typically are not accompanied by a breakdown reality testing or sense of reality. Our finding is consistent with previous literature that suggests reality testing often remains stable in less severe forms of psychopathology (Vaillant, 1994).

Associations Between Self-Other Differentiation and Ego Function

It was expected that self-other differentiation during social problem solving would be positively associated with ego function in both groups, and results partially support this hypothesis. A small positive correlation between self-other differentiation and judgement is observed in the nonclinic-referred group after controlling for age and language proficiency. This implies that an individual's capacity to anticipate the consequences of their actions and

emotionally align themselves to the situation is related in some degree to the extent to which they are able to differentiate the self and other perspective (though the relation is less pronounced after age and general language ability are taken into account). It may be the case that better self-other differentiation improves the ability to predict the social ramifications of behaviours and act in accordance with that knowledge in the absence of mental health disorder, but further investigation would be required to strengthen support for that conclusion. Bellak et al. (1973) describe that a key aspect of good judgement involves adapting one's behaviour to different situations based on the anticipated consequences, therefore understanding what behaviours are appropriate in different situations is essential. Terms such as "proper" and "appropriate" describe actions that result from good judgement, driven by having the acceptable social-emotional orientation to the situation. That is, an individual may be able to anticipate logical cause-and-effect relations for their behaviour, however if their appraisal of social appropriateness is faulty, then the resulting social-emotional response may be unsuitable for that context. For example, someone may correctly anticipate that telling a joke often results in laughter from others, and act in accordance with that knowledge by telling jokes when they want to introduce levity. However, if the individual decides to apply that same line of reasoning at a somber funeral service, then the behaviour may be considered socially inappropriate. Since what is considered socially acceptable is defined by social norms and conventions, learning the 'correct' emotional orientation–and the subsequent ability to choose the appropriate action–would logically be linked to the ability to take on the perspectives of others. This allows an individual to coordinate their behaviour with an understanding of what may or may not be deemed appropriate in a given context.

Selman's (1980) model implies that better adaptive capacity (i.e., higher ego function scores) would reasonably be expected across increasing levels of self-other differentiation, however this is not supported in the current study as no significant association was found. One

possible explanation for the lack of association between self-other differentiation and ego functions could be the influence of developmental factors. Theoretically, more mature levels of self-other differentiation should be achieved by early adolescence, however, research by Im-Bolter et al. (2013) suggests that mature self-other differentiation may not be fully developed until after 17-years of age. Since the majority of INS scores from both groups of the current sample fall into the unilateral (Level 1) and reciprocal (Level 2) categories, it may be the case that the unexpected lack of a significant relation between self-other differentiation and ego function is partially due to a lack of variability in scores. Another factor to consider is the potential influence of covariates such as age and language proficiency; although these variables are controlled for in the current study, it is possible they still have interactions with self-other differentiation in ways that may obscure a clear view of the relation with ego functions. Further research that specifically investigates how age, language, and other developmental factors may interact with self-other differentiation and ego functions would be helpful to clarify these relations.

Limitations and Future Directions

It should be noted a potential limitation of the study is the reliance on self-report data for ego functions, which may introduce bias, particularly in the clinic-referred group due to social desirability or a lack of insight. The original interview-style ego function assessment–while not free from limitations either–may offer a more comprehensive picture. Another limitation of this study is the reliance on cross-sectional data, which does not allow us to capture the developmental trajectory of self-other differentiation and ego functions over time. Future research may consider a longitudinal design that would provide a better view of how these capacities develop in parallel. Additionally, further studies could investigate the role of specific psychopathologies, such as depression or anxiety in moderating the relation between self-other

differentiation and ego functions, since as discussed earlier, certain combinations of ego function deficits have been documented to predict specific mental health conditions (Bellak et al., 1973), and self-other differentiation can differ depending on the mental health disorder (Caputi & Schoenborn, 2018; Cohen et al., 1985; Foa & Chatterjee, 1974; Natalucci et al., 2019). In the current sample, adolescents in the clinical group were referred to a mental health clinic for a variety of concerns, which may have obscured potential differences in how specific disorder profiles may be related to self-other differentiation and specific ego functions. For example, adolescents with depression may have difficulty with self-other differentiation due to distorted perceptions of their own thoughts and feelings in relation to others, which is reflected in problems with reality testing, sense of reality, and synthetic-integrative function (Bellak et al., 1973; Blatt & Zuroff, 1992; Zelkowitz et al., 2016). Similarly, adolescents with conduct disorder may display involve more outward behaviours like rule-breaking, impulsivity, and aggression that are associated with disruptions in impulse control, judgement, and object relations (Bellak & Goldsmith, 1984; Dodge & Pettit, 2003). Examining specific psychological disorders could help clarify how specific psychopathology may complicate the interaction between self-other differentiation and adaptive capacity, thereby providing insight toward more tailored interventions for adolescents experiencing mental health challenges based on the specific profile of difficulties that they are experiencing.

Conclusion

This study explored the relation between self-other differentiation and ego functions in adolescents clinically referred for mental health concerns and those who were not. Findings of the current study align with theoretical perspectives that view ego functions as core capacities for adaptive functioning; clinic-referred adolescents demonstrate lower overall ego function and well as lower scores on specific ego functions that require consideration of another perspective

compared to their peers who are not receiving any mental health services. A small positive correlation was found between self-other differentiation and judgement in the non-clinical group; however, the relation was not significant in the clinic-referred group. Taken together, the results suggest that the potential presence of psychopathology may play a role in altering the expected developmental trajectory of self-other differentiation and adaptive capacity (i.e., ego function) and perhaps weakening the potential relation between the two. An individual's capacity to navigate interpersonal conflict and adapt to their social environment is complex and involve a range of factors beyond self-other differentiation or ego functions alone. However, from a practical standpoint, by identifying specific deficits in adaptive capacity in clinical populations, the current research suggests that there may be benefit to targeted interventions that support developing and enhancing the cognitive capacities necessary for healthy social adaptation. Future research will be useful to expand our understanding of how self-other differentiation interacts with key adaptive functions in both clinical and non-clinical populations.

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