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Adolescent social media use: cultivating and constraining competence

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ABSTRACT

According to self-determination theory competence is a basic psychological need that is crucial for wellbeing. Social contexts strongly influence whether competence is supported or thwarted. Given that social media is a pervasive social context within adolescents' lives, it can play a crucial role in competence development. Three qualitative methods were used to investigate mid-adolescents' perspectives of how their social media use impacts competence. Participants included 36 students aged 15 years from four Australian schools. All participants completed a rich picture mapping activity and focus group discussions. A sub-sample of 11 students participated in follow-up interviews. Reflexive thematic analysis generated two overarching themes. The first theme *cultivating competence* includes sub-themes; enhancing social competencies, mastery experiences and goal accomplishment, and social media expertise. The second theme *constraining competence* includes sub-themes; ineffectance within the social media environment, interfering with sleep, and hindering learning. Findings demonstrated that social media contributes to today's adolescents encountering unique experiences with regards to competence development. Furthermore, adolescents' interactions on social media have broad implications for competence within online and offline realms. This study identifies aspects of social media use that can be targeted to help adolescents engage with social media in ways that cultivate rather than constrain competence.

Self-determination theory (SDT) identifies competence as one of three fundamental psychological needs (in conjunction with relatedness and autonomy) that are crucial for optimal functioning (Ryan & Deci, 2020). SDT proposes that individuals have a propensity to "actively strive to become effective, to master their environments, and to hone their capacities in order to reach their innate potential" (Legault, 2020, p. 3129). Adolescent competence has been explored within various domains including education, physical activity, family life, and health (Chu et al., 2021, Guay, 2022; Lee et al., 2021; Niemiec & Ryan, 2009; Telzer et al., 2014; Wagnsson et al., 2014). Despite social media being a popular and integral environment within adolescents' lives, there is scarce literature examining how adolescents' competence is influenced by their engagement with social media. Prominent scholars within the field of adolescent digital media use (Davis et al., 2020; Hamilton et al., 2022) assert that, to generate meaningful and applicable findings, future research should be grounded in theory, and studies should apply methods that engender a nuanced perspective. This will result in a more sophisticated understanding of the complex relationship between adolescents' social media use and wellbeing. Hamilton et al. (2022, p. 674) suggest

a useful approach would be to focus on "one critical domain of adolescent wellbeing". Consistent with these recommendations the current study uses multiple qualitative methods to gain in-depth insights into how adolescents perceive their social media use to impact the psychological need for competence.

Competence according to SDT

According to SDT, competence is fostered when individuals have the opportunity to effectively exercise their capabilities within social contexts (Ryan & Deci, 2004). This conceptualization of competence is informed by White's (1959) notion of personal effectance, which entails feeling effective within one's environment to attain valued goals. White asserts that effectance is at the core of competence, it encourages mastery of valued tasks and is therefore central to human development (White, 1959). Competence-related behaviours encourage curiosity and exploration, and the pursuit of optimally challenging goals (Deci & Moller, 2005; Guay, 2022; White, 1959). Subsequently, when competence is supported it can inspire learning and creativity, promote acquisition of skills and abilities, and foster personal growth. Conversely, if competence is undermined it

can result in disengagement, a loss of personal agency and ill-being (Legault, 2020).

Competence is central to many motivational theories and has been conceptualized in a variety of ways including goal accomplishment, need for achievement, success expectancy and self-efficacy (Bandura, 1977; Chazan et al., 2022; Edgerton & Roberts, 2014). SDT recognizes that certain elements and constructs within these theories can feed into a sense of competence. However, competence within SDT differs as it places an emphasis on the intrinsic importance underlying competence. SDT espouses that individual's competencies are most effectively fostered when behaviours are autonomously driven and activities are perceived as valued and interesting (Ryan & Moller, 2017). As such, competence extends beyond goal expectancies and feeling self-efficacious (i.e., believing you have the ability to effectively attain specific goals). The importance of activities and intrinsic motivation is central to satisfying competence. For instance, competence is not necessarily fulfilled by performance outcomes (e.g., getting the highest mark or successfully completing a task). Instead, the inherent satisfaction or value attached to the activity plays an important role in whether an individual's psychological need for competence is satisfied. Moreover, if an individual is coerced or forced to engage in an activity, regardless of whether they are successful or not, their indifference or lack of value attached to that activity may detract from the fulfilment of competence. Nonetheless, SDT acknowledges that factors such as self-efficacy, goal accomplishment and success expectancy can contribute to a sense of competence when goals are intrinsically motivated.

Competence, social media and adolescence

Although competence is important throughout the lifespan, adolescence is a critical development stage where competence plays a crucial role in fostering wellbeing. If young people develop a sense of competence early in life it can help them acquire foundational skills and capacities that have adaptive value throughout adolescence and adulthood. This is reflected in the World Health Organisation's (World Health Organization, 2014, para.1) statement noting that adolescents "develop knowledge and skills, learn to manage emotions and relationships, and acquire attributes and abilities that will be important for enjoying the adolescent years and assuming adult roles". Beyond functional benefits, the experiential aspect of competence (e.g., feeling effective and capable) can have positive implications for factors associated with wellbeing including optimism, self-esteem and self-efficacy (de la Barrera et al., 2019; Sagone et al., 2020; Usán et al., 2022).

It is well-recognized that adolescent development occurs within a network of interconnected contexts including school, family and peer settings (Bronfenbrenner, 1979). Recently, social media has been identified as a distinct and pervasive context within adolescents' lives (Nesi et al., 2020). Contextual features shape adolescents' experiences and behaviours, and can have a strong influence on wellbeing outcomes, including whether the psychological need for competence is met (Ryan & Deci, 2020). Today's adolescents experience constant pressure to meet excessive achievement demands across many domains (e.g., academic, sporting, leisure, family and social spheres) (Horowitz & Graf, 2019; Krogh, 2022; Madsen, 2021). This high level of achievement expectancy has been linked with a range of negative consequences for adolescents including stress, anxiety, poor sleep and diminished wellbeing and quality of life (Cosma et al., 2020; Pascoe et al., 2020). Social media contributes to the growing achievement imperative (Krogh, 2022) with the potential to undermine adolescents' sense of competence. For example, adolescents report that the publicness of social media arouses instances of upward social comparison, promotes curation of idealized and unrealistic self-presentations, and encourages competition for popularity and attention (Krogh, 2022). This is epitomized through studies highlighting that social media incites body dissatisfaction due to appearance comparison and unmet (and often unrealistic) beauty and body ideals (Popat & Tarrant, 2022; Vandenbosch et al., 2022). In addition, adolescents note that normative practices on social media impose expectations and demands that are sometimes difficult to achieve including constant availability, timeliness in responding and high frequency of interactions (Festl, 2021; West et al., 2021). Therefore, failure to comply with normative expectations within digital youth culture has the potential to frustrate the need for competence. Nonetheless, research suggests that social media may also cultivate competence. For example, it can help adolescents practise and develop social competencies (O'Reilly et al., 2019West et al., 2021). It also provides access to information that promotes knowledge acquisition and skill development (Schaffer, 2015).

One key aspect to consider when endeavouring to understand how social media impacts adolescents' competence is the type of feedback they receive. SDT proposes that feedback can potentially foster or stifle competence (Ryan & Deci, 2020). Adolescents have heightened sensitivity to emotionally salient events (both rewarding and threatening), especially with regards to social feedback (Rudolph et al., 2021). Social media provides a constant flow of different forms of feedback. Positive feedback (such as likes, encouraging comments or numerous followers) can instil a sense of competence. Conversely, negative and punishing feedback (such as verbal insults, threats and cyber-ostracism) can incite feelings of negative self-evaluation, inadequacy and critical introspection (Krogh, 2022), thus undermining competence. Another point to consider is

that peer relationships are especially salient and important during adolescence (Steinberg, 2023). Perceived social self-efficacy refers to "an individual's confidence in [their] ability to engage in the social interactional tasks necessary to initiate and maintain interpersonal relationships" (Smith & Betz, 2000, p. 286). The social media context has the potential to help adolescents develop perceived social self-efficacy. Taken together, the current literature highlights the complexity involved when exploring the relationship between adolescents' social media use and competence. Further research is needed to help unravel the intricacies.

Competence within the social media environment

Researchers consider social media literacy to be a fundamental competence necessary for growing up in today's digital world (Festl, 2021). They suggest that traditional media literacy models need to be reconfigured and adjusted to take into account the multifaceted relationship between users and social media (Cho et al., 2022; Festl, 2021). Social media differs from traditional media in that it is no longer primarily a unidirectional relationship where consumers are passively receiving content. Conversely, there is a complex interactive relationship between the self and the medium, where users can generate and create content, interact with other users as well as passively consume content.

Manca et al. (2021) emphasize the complex array of skills and competencies that are entwined within social media literacy. They conducted a systematic literature review using the UNESCO Digital Literacy Guiding Framework that consists of seven competence areas; devices and software operations, information and data literacy, communication and collaboration, digital content creation, safety, problem solving and career-related competences. The different social media practices were differentiated into those that are acquired or decontextualized (e.g., technical and functional skills) and those that are developed through participation and therefore context-dependent (e.g., co-construction of knowledge or interpersonal communication that leads to civic engagement). Findings showed that most studies within the review depicted social media practices as decontextualized with social media seen as a tool that allows users to acquire individual, cognitive accomplishments. In contrast, only a few studies focused on participatory practices and context-dependent social media literacy. The authors suggest that conceptualizations of social media literacy should encompass aspects beyond individual accomplishment and skill development as " … literacy is a relational process in which meaning is made through emergent, embodied activity … " (p.14).

Cho et al. (2022) applied this approach when developing their social media literacy framework. The framework takes into account the multi-dimensional interaction between social media users and the medium. It comprises three competency dimensions; analysis (the ability to recognize and monitor content, networks, consumption and behaviours), evaluation (the ability to identify and examine values, beliefs and experiences underlying interactions and to assess their realism) and contribution (the capacity to use social media for collective good and civic goals). This framework highlights that for an individual to be social media literate, competence needs to extend beyond learning technical skills. Instead "a social media literate person should demonstrate the ability to locate [themselves] in the interconnections between the media and actual worlds, be cognizant of the exchanges between the self and the media, and discern the values underlying these exchanges" (Cho et al., 2022, p. 16). This framework could be particularly useful for adolescents to help them consider why they are using social media and to recognize that the actions and choices they make when using social media can have broad and deep implications for their online and offline worlds.

The Current study

Scholars claim that in order for the field of adolescent digital media use to evolve, research needs to generate findings that have applicability, meaningfulness and utility (Hamilton et al., 2022). Research needs to; investigate beyond whether social media is helpful or harmful to overall wellbeing; generate nuanced findings in relation to specific aspects of social media use and the implications for different facets of wellbeing; and adopt a developmental lens (Davis et al., 2020; Hamilton et al., 2022). To achieve this scholars have called for the inclusion of qualitative methods and adolescents' voice (Davis et al., 2020; Festl, 2021; Hamilton et al., 2022). With this in mind, the current study uses multiple qualitative methods that delve into adolescents' unique insights into how their social media use impacts their sense of competence. To reflect adolescents' typical social media use, within this study social media refers to social networking sites, content sharing and social online games.

Given the pervasiveness of social media within adolescents' lives, the strong influence social contexts have on competence development, and the importance of competence for optimal development and wellbeing, the overarching aim of the study was to identify how mid-adolescents social media use can be optimized to support, rather than thwart, the psychological need of competence. With this in mind, the guiding research questions were as follows:

(1) In what ways do mid-adolescents perceive their social media use to support the basic psychological need for competence?

(2) In what ways do mid-adolescents perceive their social media use to thwart the basic psychological need for competence?

Method

Participants

Participants comprised 36 students aged 15 years, from four schools in Melbourne, Australia. In accordance with the Index of Community Socio-Educational Advantage (Australian Curriculum Assessment and Reporting Authority, 2019 all schools reported above-average socio-economic status. At each school nine students participated in a rich picture mapping (RPM) activity and a focus group. A sub-sample of 11 students also participated in a follow up one-on-one interview (Table I provides further details).

Design

This study was part of a larger research project exploring adolescents' social media use in relation to SDT. A sequential multi-method design was adopted using three qualitative methods; RPM, focus groups and one-on-one interviews. The application of multiple methods is considered a useful approach for producing a more complete understanding of a complex phenomenon under investigation (Mafuba & Gates, 2012). This was evident within the current study as each phase of data collection enabled opportunities for clarification and elaboration of participants' experiences and ideas. Although the current study focused on competence, guiding questions were intentionally broad to avoid potential biases that may steer participants' responses towards favouring researchers' assumptions.

Data collection methods

Rich picture mapping

RPM is a collaborative activity that involves small groups of participants working together to draw their responses to a specific question. The research question for this study was "Why is social media important to adolescents?" Within each school, the nine participants were divided into smaller sub-groups (three per group). Each group was supplied with a large, blank piece of paper and coloured markers. At the beginning of the activity the moderator

(the first author) outlined the RPM process explaining that each group is invited to discuss the research question amongst themselves and to draw their responses (using pictures, diagrams or symbols) on the supplied paper. The moderator encouraged participants to freely express themselves emphasizing that there were no correct or incorrect answers and that artistic ability was not necessary nor being assessed. A mock-up example was shown depicting basic sketches so participants could visualize what was expected and allay fears about artistic abilities. Each individual group member was encouraged to contribute to the discussions, however, the pictorial depictions could be created by any number of members within each group. In general, whilst the groups were engaged with the activity the moderator refrained from interjecting to allow the participants to steer the narrative in the direction they choose.

A benefit of RPM is that it is particularly valuable when investigating complex topics as it promotes exploration into underlying thoughts and emotions (Conte & Davidson, 2020). Therefore, to elicit in-depth responses, during the process the moderator prompted participants to consider underlying emotions and meanings beyond the superficial reasons why social media is important to them (e.g., chatting with friends may be the initial thought yet feeling happy and connected may be the underlying motives for using social media). After approximately 10 minutes of discussion and drawing, participants reconvened and one group at a time presented their drawings and explained their responses to the broader group. The primary purpose of the RPM was as an ice-breaker and an initial exploratory tool to stimulate ideas and encourage further discussion within the focus groups and one-on-one interviews.

Focus groups

Focus groups were intentionally small (nine per group) to avoid fragmentation and encourage each member to contribute to discussions (Krueger & Casey, 2014). A semi-structured format provided participants with the flexibility to steer the direction of discussions, thus, promoting the potential to capture meaningful insights. Two overarching themes were investigated. The first theme expanded on the RPM discussions by examining in more detail why social media is important to adolescents. The second theme explored how social media impacts factors associated with wellbeing. Questions

Table I. School and participant data collection information.

School	Rich Pictures & Focus Groups	One-on-One Interviews
Government co-ed school	5 females/4 males	n/a
Government co-ed school	8 females/1 male	3 females/2 males
Independent co-ed school	5 females/4 males	4 females/2 males
Independent boys school	9 males	n/a

Note: n/a = one-on-one interviews were not conducted at these schools.

focused on adolescents' experiences of how social media impacts their daily lives, the beneficial and detrimental aspects of social media use, and how life would differ without social media. Focus group discussions lasted approximately 45 to 75 minutes.

One-on-one interviews

To encourage meaningful and nuanced responses, the researcher used a semi-structured approach with open-ended questions. The interviews enabled clarification and expansion on topics that arose during focus groups and RPM activities, and also prompted new areas of discussion. Interview questions probed more deeply into how social media is detrimental/beneficial for daily functioning, and explored adolescents' perceptions of how their social media use impacts life balance, and tapped into generational differences with regards to social media use. Interviews ran for approximately 30 minutes and participants went into a draw to win a $30 gift voucher.

Procedure

Ethics approval was obtained from the University Human Research Ethics Committee and the Department of Education and Training. Data were collected between November 2018 and December 2019. School staff (including one well-being co-ordinator, one vice principal and two middle school co-ordinators) informed all Year 9 students at each school of the opportunity to participate in the study. Recruitment entailed purposive sampling as staff members explained that students who use different forms of social media (including social networking sites, gaming and content sharing) were permitted to participate. A maximum variation method was applied with staff ensuring students who use different forms of social media were included within the sample. Each staff member collected written consent from parents and students, and organized a spare classroom for data collection during school hours. With consent the sessions were audio-recorded. The first author liaised with school staff, conducted the data collection and transcribed the audio-recordings verbatim. At the commencement of data collection, the researcher explained to participants that, as social media natives, they are positioned as experts with the potential to provide valuable insights into this topic. Participants were then reminded that they could withdraw from the study at any stage without negative repercussions. RPM sessions were held first providing an informal and interactive way to stimulate discussions. Focus groups were conducted immediately following the RPM sessions. Following the focus groups, students at two of the schools (the independent co-educational school and one of the government co-educational

schools) were offered the opportunity to participate in a follow up one-on-one interview. Approximately one week after the focus groups, one-on-one interviews were conducted in person with those students who were interested and who supplied the relevant consent forms.

Data analysis

Data from RPMs, focus groups and one-on-one interviews were analysed and interpreted using Braun and Clarke's (2020) reflexive thematic analysis (RTA). RTA emphasizes the importance of the researcher's reflexive and thoughtful engagement with the analytic process to enable fully realized themes to be generated. RTA also maintains that both theory-driven and data-driven generation of codes are valuable approaches to theme generation. Given that the current study adopts a SDT perspective and champions adolescent voice, it was appropriate to employ both theory and data-driven approaches. This ensured a comprehensive analysis was conducted that captured relevant codes that not only reflected mid-adolescents experiences and views, but also allowed interpretation through a SDT lens.

In line with RTA a six step process of data analysis was conducted. Step one entails familiarization of data. This was achieved through transcribing audio-recordings, noting preliminary impressions and reading transcripts multiple times. Step two involves the creation of initial codes. RTA argues that multiple realities exist, thus, inter-rater reliability and qualitative coding is problematic (Braun & Clarke, 2020). Accordingly, the first author generated initial codes by analysing all comments within the transcripts and identifying those that were relevant to the research questions. Step three involves generating themes. Theme development was achieved through identifying patterns across codes and collating the codes based on similarity. The fourth step entails reviewing the potential themes. Initial themes were reworked ensuring coded extracts were relevant and that themes were meaningfully distinctive. The fifth step involves defining and naming themes. Central elements of sub-themes and codes were identified and considered in relation to SDTs conceptualization of competence. This resulted in the generation of two overarching themes and associated sub-themes. The sixth and final step of RTA is writing the report. The presentation of findings within this manuscript reflects thorough and transparent reporting (e.g., verbatim quotes with analytical narratives and detailed methodological and procedural information).

To uphold trustworthiness and dependability of the analysis, Braun and Clarke's (2006) checklist for quality research was applied. This included comparing all

transcripts with audio recordings to verify accuracy and ensure there was an appropriate level of detail. A reflexive approach was used, taking into account researchers' experiences and values and the subsequent potential to influence the research process. Method triangulation captured varied and nuanced perspectives from adolescents, providing a means of validation through identifying converging information. At various points throughout the research process the research team convened to discuss ideas, challenge assumptions and ensure themes were analysed in a logical and meaningful way. Rigour was enhanced through transparent reporting.

Findings

RTA generated two overarching themes; "cultivating competence" and "constraining competence." Tables II and III outline each theme and associated sub-themes.

In the following section, findings from RTA are presented. The terms RPM, FG and I reflect which quotes were from RPM, focus groups and one-on-one interviews (respectively). To denote which quotes were from participants at the different schools: [1] and [2] refer to the two government co-educational schools, [3] refers to the independent co-educational school and [4] denotes the independent boys school.

Theme 1: cultivating competence

Subtheme 1: enhancing social competencies

Participants discussed how social media enhances inter-personal capacities and helps them build social capital "it opens you up to a lot more talking to people and getting to know people better and what they are like"[I,1]. Participants noted that they "can be more confident"[FG,2] on social media compared with face-to-face interactions which helps them gain deeper connections with others. They explained that "when you're talking to someone on social media you can say whatever, so you can open up to one of your close friends and *really* talk … you might not feel comfortable opening up like that face-to-face"[I,1]. Participants noted that adolescents feel safe to engage in open dialogue and self-disclosure because "you don't feel judged in anyway"[FG,2], "the screen is their protection and they're gonna be OK"[FG,3] "if it's face-to-face it's just so much different you don't have that screen in front of you to protect you" [FG,1]. Subsequently "people share all their secrets [on social media] but they probably wouldn't tell you in real

Table II. Cultivating competence - theme, sub-themes and examples.

Theme 1 - Cultivating Competence		
Sub-themes	Overview of Sub-theme	Examples
Enhancing social competencies	Social media promotes inter-personal capacities, broadens and deepens social connections and increases personal resources	Instilling perceived social self-efficacy Building social capital Fostering collaborative learning Promoting global competence
Mastery experiences and goal accomplishment	Social media allows users to develop, hone and utilize capacities that help them strive towards outcomes of personal importance	Acquiring skills Increasing knowledge Expressing and exercising strengths and capabilities
Social media expertise	Demonstrating a high level of proficiency when navigating social media instils a sense of having social media expertise. Imparting social media skills and knowledge with others accentuates the acquired mastery over the social media environment	Feeling effective at using social media platforms Downward social comparison accentuates expertise Imparting social media skills and knowledge to others Applying strategies that maximize positive interactions

Table III. Constraining competence - theme, sub-themes and examples.

Theme 2 - Constraining Competence		
Sub-themes	Overview of Sub-theme	Examples
Ineffectance within the social media environment	Obstacles arise that challenge users' self-efficacy with regards to their capacity to effectively navigate the social media environment	Creating confusion and self-doubt Communication misunderstandings and misinterpretation Inability to control others' behaviours on social media
Interfering with sleep	Social media impacts the capacity to regulate sleep which subsequently has detrimental effects on daily functioning	Delaying sleep onset and reducing sleep duration Interrupting sleep Negatively impacting daily functioning
Hindering learning	Social media use interrupts study, interferes with concentration, diminishes effort and quality of work and challenges academic integrity	Encouraging procrastination and distraction Detrimental to knowledge attainment and quality of work Compromising academic integrity

life"[FG,2], and they "get into more depth and talk about stuff that you don't like to talk about in person"[FG,1]. One participant elaborated on this view illustrating how difficult it can be to have sensitive conversations in person "when you are face-to-face people are nervous and laugh and make sensitive topics not sensitive anymore, but like if people are texting it [on social media] then they aren't nervous and it's more serious"[I,3]. The asynchronicity of social media contributes to a sense of effectiveness in communicating "I feel like when you're typing a message to someone you can change what you're saying, so you could be on the subject with one sentence and then you could just back space those couple of words. Whereas in real life, if you do like mess up a word in a sentence just completely accidentally, then you can be judged and then it gets awkward and stuff"[FG,1].

Participants demonstrated how social media enhances their inter-personal skills by facilitating collaborative learning. For example, participants reach out to peers via social media when they need help with homework. One participant commented that it is "helpful when you're stuck on something and you ask your friends for help"[I,3]. It was also considered "helpful when you weren't in class and you didn't know what the homework was or what you did in class, and you can just ask your friends"[I,3]. Participants discussed how social media is useful for groupwork. They explained that it is an easy way for negotiating and allocating tasks "I had a group project last term and we did talk about it [on social media] ... about getting materials and stuff and who is getting what"[I,3], "I know last year there was a group of about five of us three girls and two boys and we had to do this one massive project and so we broke it all up and we sent it all through social media"[I,1]. Another participant emphasized how social media is a convenient and comfortable way to work with people they do not know very well "we did this Geography project and you had to do this full on written report on an excursion we went on and I was doing it with a partner and we're not really that close and so we communicated through Instagram's messages which I found really helpful"[I,1]. Participants highlighted how working together on social media broadens understandings enabling them "to get different people's ideas"[I,1] and to work collaboratively to solve problems "when everyone has the same assignment and some people are so confused we can do it, like Facetime or something, and do it together" [I,3].

The general consensus was that social media is particularly useful for helping reserved or socially anxious people feel more confident. Participants discussed how social media encourages shy adolescents to be more outgoing. One participant highlighted the stark contrast in confidence when on social media compared with face-to-face "they let it out and talk as much as they want on Snapchat but as soon as you meet them in person they just shut down"[I,3]. Participants also suggested that shy adolescents can be more authentic on social media "I feel like it helps you to open up and show people who you are"[I,3] and "some people who play PlayStation, they are almost always themselves more, they won't be shy they don't shy away, and you play with them on PlayStation and it's like wow they're very different, sound different, more confident" [FG,4]. Another participant attributed their self-confidence to social media "I was actually extremely shy as a kid until I got social media and my confidence grew and I noticed 'oh yes you're the same too' and I'm actually very confident now"[FG,2]. This comment illustrates how adolescents can find people they relate to on social media who have shared similarities, which in turn helps them to feel confident in themselves. Further participants illustrated how social media helps them combat their social anxiety by reducing tension and discomfort. One noted that they feel comfortable on social media however in person:

> "I'm really awkward and I can't talk to someone and answer people, they are like'how's your day?' and I'm like 'arrrrgh, like ok' I don't really know what to say I just go mm to everything so I don't really like say anything"[FG,2]

Another shared

> "one thing I find that's good about it is like sometimes, like if you suffer from anxiety or like social anxiety, you don't want to go up to a person cos you're so scared you don't know how to present yourself, so like talking over the message it's so much easier,it's more relieving than just talking to that person"[FG,1].

Participants outlined indirect and less obvious ways social media enhances social competencies. One participant highlighted that social media helps them gain insights into people "I guess basically you learn a lot about what people do, and from behaviours about how people act ... about people and behaviours and personalities I guess". They extended this notion stressing how the social media environment provides unique lessons about human behaviour "I haven't got any knowledge through school about this stuff [I,1]. They emphasized how the broad reach of social media enables them to expand their global understanding by "seeing what's happening in the world"[RPM, 2] and getting to know people from different cultures. One participant commented that the most important reason for using social media was "making connections to people around the world ... they are teaching me stuff ... it's just not talking about random stuff, it's like talking about how does your schooling system work?, you know just asking questions about their culture"[I,1].

Subtheme 2: mastery experiences and goal accomplishment

Participants considered social media important for accessing different information that enables them to acquire skills and knowledge. For example, they appreciated the chance to learn "how to do things"[FG,1] via YouTube, particularly personally meaningful skills such as "how to do makeup"[FG,3] or gaming strategies. One participant commented "when sometimes I don't know how to do something in a game I will look up how to do it and watch that"[I,3]. This comment highlights how the immediacy afforded by social media allows adolescents to easily seek interest-driven information to hone their skills in the moment.

Social media was also considered a valuable source of inspiration, enabling participants "to look up people who inspire us"[RPM,1], and "get inspiration from other peoples' posts"[RPM,1]. Participants noted that social media was useful "cos it's got lots of news"[RPM,4] and it is an easy way of "knowing what's going on cos you have everything at your fingertips"[FG,4]. Participants emphasized that social media allows them to attain novel information they cannot access elsewhere. One participant explained "I feel like some things you only get to see through social media"[I,3]. Another participant agreed commenting that social media offers unique opportunities to expand knowledge "you could see something different that you haven't ever seen before"[I,3].

In addition to acquiring skills and knowledge, participants noted they have developed a range of strategies to effectively manage negative states and emotions. They described a vast array of strategies they implement (e.g., chatting with friends, gaming, watching memes, scrolling through their favourite feeds) to combat different emotions within different situations. One common view amongst participants was that social media is particularly effective at helping them reduce tension. For example, participants explained that social media is useful when they feel angry as it allows them to vent"[FG,1], "rant"[FG,2] or "to calm me down"[FG, 2]. They engage with social media to de-stress noting that it is helpful "for a brain break or to relax" [FG,1] and for "zoning out"[FG,2]. It is also a convenient way to relieve boredom:

> when you're bored it's sort of a quick and easy go to option, not a lot of thinking and stuff, especially if you're tired and exhausted after a long day at school[FG,1].

Participants also discussed how they use social media to circumvent upcoming stressful situations (such as changing schools, living overseas with an exchange student or starting a new job). To avoid feeling uncomfortable or nervous in new environments they instigate initial contact on social media prior to meeting face-to-face so that "it's not as stressful as what it could have been" [FG,3] and "it's not like you just met for the first time"[FG,3].

Participants discussed how social media also promotes proficiency with schoolwork. For example, one participant noted that the information on social media is helpful "for research and stuff I'm using it to actually figure out stuff"[I,1] another commented that "there are like some stories [on Snapchat] that are beneficial for my learning"[FG,2] and a further participant noted they use social media for "a lot of inspiration on projects"[RPM,1]. Social media was considered useful for organizing study. One participant commented that they access "a number of fact pages that help you be more efficient"[FG,2]. Other participants emphasized the importance of social media when struggling with homework "I had no idea how to do something that I was doing for study or homework and I had to just search it up on YouTube"[I,3]. Participants appreciated how social media can help them with a wide range of subjects. They commented that "if you're stuck on a Maths problem you can look up how to solve it"[FG,1] and "YouTube can give you a lot of help in like Geography, Maths, History and stuff, there's a lot of good videos on there"[I,3] and it is useful "with things to do with Science and stuff"[FG,1]. They highlighted how social media can bolster specific areas of weakness. For example, "I'm not a very creative person and so if I get an assessment that needs art then I look for inspiration on social media and it really helps actually"[I,1].

Participants highlighted how social media provides opportunities to pursue passions and exercise character strengths and capabilities. For example, they enjoy helping peers with different problems ranging from solving social or emotional issues, providing gaming advice or assisting with homework. One participant reflected on their sense of effectiveness at helping others and commented "it's really good for reaching out to people who like are in a bad place, like I know I've comforted a lot of people over social media"[FG,2]. Another participant illustrated how social media enables them to make a positive impact beyond their proximal social groups; "I've actually helped a lot of people [on social media] even strangers through hard places, so it's good"[FG,2]. Participants also discussed how they use social media to cultivate their passions and personal interests. They appreciated how social media provides different avenues to explore interests. For example, one participant was a racing car enthusiast and explained that they research racing information by "scrolling through feeds … and suggested chats"[FG,4] they also play multiple car racing games on social media "I've got F1 mobile and real racing"[FG,4]. Participants expressed excitement when discussing how social media helps them pursue their passions. One participant enthusiastically

explained how the YouTube channel they created has become a part of their identity "I could live without [other] social media but not YouTube cos people know me as the YouTube lover"[FG,2]. Another participant described how following passions via social media can be invigorating:

> when you're at school and you might see a boy that's down and not very active or energetic but when you're on a game, or whatever you're on, you feel like they're very happy, they're on it and excited[FG,4]

When asked what they would miss most if they did not have social media, one participant quickly and adamantly replied "definitely the games"[I,3]. They enjoyed the challenge of 'levelling up'[I,3] and shared how their passion for gaming sparked curiosity and led them to acquire new interests and skills. They researched how to build a gaming PC and sourced specific parts online:

> I built my computer … I saved up and I built it, cause I have one of my mum's friends and I went over to his and we built it and that was lots of fun … and then we built one of my other friends a computer for his birthday … yeah it is pretty satisfying … I put so much time and effort into it[I,3].

Subtheme 3: social media expertise

Participants considered themselves to have a high level of expertise with regards to their social media use. They reflected on their naivety when they initially joined social media "I thought it's just all fun and games"[FG,1]. However, they explained that experience has led to a deep understanding of how to successfully navigate the social media environment. They commented that "when you really have had it for a while it kind of clicks into your brain"[FG,1], you become "more aware"[I,1], and "you learn over time" [FG,1].

Participants explained how their social media expertise is accentuated when comparing their proficiency with older generations. This was evident through comments such as "my parents don't really know much about it"[I,3] and "I think that adults above the age of 30 have the wrong opinion of social media"[FG,1]. They discussed how their expertise coupled with their parents ignorance enables them to outsmart their parents with regards to social media restrictions "there are so many options to get around your parents"[I,1]. Participants demonstrated their sense of mastery when describing how they impart their social media knowledge with others. They discussed how they help their parents understand social media. One participant commented "I'll sit down and show mum or try to help her understand"[I,3] another participant noted "mum and dad are reasonable because they try and understand … they always ask

me to explain what I am doing on my phone"[I,3]. A further participant described how their Grandma often draws on their expertise "like literally every time I'm at her house she is asking me something about how to use this or she is like reading me one of the notifications and she's like what the heck is this?"[FG,2]. In addition to helping older generations, participants also impart their knowledge to their younger siblings. For example, one participant was concerned for their brother "he is two years younger, he started using it [social media] this year and so I had to make him more aware about it"[I,1]. A further participant also shared advice with their younger brother who was accepting a lot of strangers as followers, they explained to him "that's sort of a sense of loss in your privacy as well cos you'll post all this stuff and just random people that you don't even know can see it"[FG,1]. Another participant warned their brother about privacy issues when posting images "anything with the school logo on it I just don't post like my brother did that, I didn't yell but I lectured him for like a full hour on putting his accounts on private cos he did not know how to do that"[I,1].

Participants have honed their expertise by recognizing and applying strategies that encourage positive interactions and circumvent negative repercussions. For example, one participant carefully crafts messages "I read over my messages once I've fully written them out before I send them out to make sure that everything is all good"[FG,1] and sometimes if a message seems ambiguous participants put "an emoji next to it" [FG,2] to help clarify the intent. In addition to the sender being vigilant, participants acknowledge that the receiver needs to look inwards when interpreting posts as it is easy to distort messages or make negative assumptions. For example, one participant stressed the importance of being aware of your own mood when interpreting messages,"it also depends what mood you're in, like if I'm reading messages and I'm angry I'll read my friends like, 'oh what's happening are you angry?' and she's like 'no', and I'm like oh ok I am just angry"[FG,2]. Participants discussed how they learn through vicarious experiences "if they [someone else] make a mistake then I know that I better be careful"[I,3], "I reckon 90% of people know not to say rude stuff, like they might've seen someone else do it and seen the kind of effects that it can have"[I,3]. They discussed how they have developed an awareness of the permanency and publicness of social media. One participant provided advice for posting "once it's out there you can't take it back … so think about what you post before you do it"[FG,1]. Participants recognize that even on platforms that are considered safer because posts are temporary people need to "be careful about what they say because someone could save it or screenshot it"[I,3].

Theme 2: constraining competence

Subtheme 1: ineffectance in the social media environment

Participants explained that when navigating social media they encounter incidents that undermine their self-efficacy. When asked about their social media use one participant commented "it's just really confusing to me"[FG,1] another concurred reiterating "social media *is really* confusing"[FG,1]. Other participants substantiated this view exclaiming "it's so much more complicated than real life"[FG,2] and "everyone is just talking about stuff and saying different things and it just gets all complicated"[FG,2]. Another participant agreed noting social media is chaotic and complex "it's very controversial … in every way, it's like politics"[FG,2]. They explained:

> [in real life] you don't have all this stuff going on at once, whereas when you're on social media you could have seven different conversations going on and like five of those you're having fights with other people and like two of those you're actually chatting with people, you can have so many different things going on [FG,2]

Participants emphasized that incompetence when navigating social media can result in dire consequences for inter-personal relationships. Subsequently, they are often trepidatious when communicating via social media due to concerns of "making mistakes"[I,1] and upsetting people. For example, one participant explained that "it can cause a lot of break ups [for] friendships and relationships"[FG,2] another noted "it takes two seconds for someone to take [posts] the wrong way and a whole relationship is ended" [I,1] a further participant commented that after a fight on social media "well usually [people] don't see each other the same, and they might not be friends anymore … " [I,3].

A common challenge they encountered was the potential for posts and comments to be misinterpreted. They explained that it is easy to distort messages or make negative assumptions because "a lot of the things do come off in the wrong way [on social media]"[FG,2]. One participant commented:

> sometimes people say stuff to you and you think "oh that's rude" but it wasn't because that's not what they intended, it was just how it was written[I,3].

Participants highlighted how difficulties arise due to the lack of sensory cues "you can't really tell someone's expressions"[I,1] and "you can't hear their tone, see their body language, there's like no way to properly read them"[FG,1] and "when you send something over message it's literally just words … like people read it in such a different way"[FG, 2].

Participants also discussed challenges concerning normative expectations and social media etiquette. They highlighted how there are unwritten rules that need to be followed. For example, "if you open a Snapchat and don't reply for ten minutes then that's rude, but if you open it and reply straight away that's OK"[I,3]. Their apprehension when using social media is often triggered by previous experiences. Participants described how they have encountered negative repercussions from not abiding by the rules "Oh my God if you don't reply to someone they get so mad at you"[FG,2], "friends can get angry at people for looking at them [messages] and leaving them unread"[FG,3], "it can make people anxious"[I,1] and people get upset they "know you're on it, like you have the green button to say you're active and stuff, why aren't you replying?"[I,1]. Similarly, they explained the need to be wary when phrasing messages as certain protocols need to be followed. For example, participants noted that "there are like a lot of different responses for OK"[FG,2], "K is just K, then you have OK and then O K" [FG,2] some are polite and others are not. They stressed that simply sending K is not acceptable "say K at me and I'll get mad"[FG,2] another agreed noting that "K [is] for if you're like really annoyed at that person"[FG,2]. Regardless of whether participants have personally caused issues on social media they have heightened awareness of the need to be cautious through vicarious experiences "if they [someone else] make a mistake then I know that I better be careful"[I,3], and "I reckon 90% of people know not to say rude stuff, like they might've seen someone else do it and seen the kind of effects that it can have"[I,3].

Participants discussed how their inability to control other people's behaviours on social media can threaten their sense of competence. They shared a range of examples to support this view including the potential to be catfished "I always think that they could be like a 40 year old man like sitting in his basement"[FG,2] and for being bullied by "keyboard warriors cos there's no repercussions but then like if you're face-to-face with someone and you're abusing them then there will be repercussions" [FG,4]. One participant highlighted their inability to protect themselves against persistent hacking "I know a hacker and he hacked into my phone and read secret messages … he stills hacks into my phone like once a week"[I,3]. Another participant discussed how their vulnerable friend was hurt and frustrated due to their ineffectiveness at preventing a troll's tormenting actions:

> one of my friends last year she had an eating disorder and a lot of difficulties and someone kept on making a hate page of her on Instagram … she keeps reporting it and they get taken down and it keeps getting put up again. [I,1]

Participants also discussed how their own social media behaviours can contribute to a sense of incompetence. They noted that they often engage in unintentional, non-purposeful social media use. Despite the lack of interest and motivation they find themselves engaging

in mindless scrolling which they describe as "a time waster"[FG,2]. They described how their social media use is often "just like a habit"[FG,2] where they automatically keep checking their screens with no goal or purpose. At other times they struggle to combat the allure of social media. Participants explained that when activities are "fun"[FG,4] or "interesting"[FG,2] then their efforts to refrain are often unsuccessful. Participants stressed how their mindless scrolling and inability to resist the temptation of social media has detrimental implications for other important life domains such as sleeping and learning.

Subtheme 2: interfering with sleep

A common concern amongst participants was their inability to disengage from social media at bedtime. They discussed their continual struggle to disconnect and the negative repercussions. A key issue was delayed sleep onset that results in insufficient sleep. Participants explained that social media is "always like the last thing you do before going to bed"[FG,4] which creates "problems about getting enough sleep"[FG,4]. Participants expressed their frustration " … the start of the year was really bad, I just could not stop and I got like five hours sleep some nights"[I,1] another commented "I'm thinking just turn it off and try stuff to sleep"[I,1]. They identified factors that contribute to difficulties in disengaging including "fear of missing out"[FG,4], "endless scrolling"[I,1], expectations to be available and not wanting to disappoint friends "you feel like you have to be there or they get upset"[FG, 3] and the alluring content "it just really intrigues you"[FG,1] and "the urge of just wanting to look at social media—there's a big urge to do that[I,1].

Despite being educated about pitfalls of late night social media use, participants continue to engage in such behaviours which contributes to a feeling of ineffectiveness:

> I remember doing this study last year and it was like something about your melatonin levels and if you are staring at light for too long you can't go to sleep all the time, and I remember like taking that into consideration but then like it just doesn't work, like I can't sometimes, I'm just on my phone[I,3].

Other participants mentioned how frustrating it is to feel incapable of stopping and described their internal dialogue as they battle the allure of social media.

> I keep scrolling and it's like "just stop it" and the lights are all off and so it's just my screen light and it doesn't really help me try to sleep[FG,1]

> [I get] into this loophole where it's like 'I'm gonna get off in five minutes", but five minutes goes by and you're like "OK five more minutes" and then "OK five more minutes" and then "five more", it just keeps on going and going and you never actually get to sleep[FG,1].

One participant highlighted the irony in that social media is the problem yet it also provides the solution " … like you keep scrolling and you keep watching more videos but like you can watch videos about discipline on how not to do that" [FG,1]. They stressed that having easy access to strategies but not capitalizing on them exacerbates the feeling of incompetence.

Participants discussed a range of other factors that contribute to sleep issues. For example, increased cognitive arousal from interacting on social media further delays sleep onset. One participant explained that it is particularly difficult to switch off mentally if conversations with friends were heated prior to sleeping:

> I get stressed very easily and if like [negative] stuff happens before I go to sleep it also affects my sleep and trying to get to sleep[FG,2].

The close proximity of devices also reduces sleep time and quality. One participant explained it is hard to resist checking social media because "I have my phone like next to me while I'm sleeping"[FG,2]. Participants also discussed how they sometimes re-engage with social media if they wake up in the night. For example, one participant commented "the buzzers just keep going off so you just want to quickly check your phone"[I,1]. Another shared:

> … it's like four o'clock in the morning I'm like I can't do anything else I'll distract myself [on social media] and just wait until my alarm goes off[FG,2]

Participants discussed how their poor sleep quality inhibits their capacity to function properly. They explained how they feel "exhausted"[I,1] and mentally drained the next day at school. For example, participants noted:

> I get really snappy, like don't mess with me I get really frustrated easily and have no patience with anyone or for anything, which is frustrating for me as well cos I don't know why I'm like that way and it's so confusing for my whole body as well"[I,1].

> that extra layer of technology keeping me awake I'd only get five hours and I cannot function on that especially when I'm trying to think during school and everything[I,1]

> I sometimes am like, okay I was really tired today I need to get this under control, I know that this happens to, not just me, but a lot of my friends like you get to class and you feel like sleeping because you haven't slept well[I,3]

Subtheme 3: hindering learning

Participants considered their social media use to be detrimental to their learning. One common issue participants identified was that social media encourages procrastination when they should be studying. One participant commented sarcastically

"you'll be surprised to know that it helps you procrastinate, it supports that"[FG,4]. They discussed how study is boring compared with the appeal of interacting with friends on social media and engaging in fun activities such as gaming or scrolling through feeds. These activities often lead to long delays in starting homework. This was evident through comments such as:

> social media does impact study a lot, sometimes I'll be on my phone and I'll just procrastinate I just don't want to do [study], I'll be like I'll do it tomorrow[I,1]

> I think one thing that happens … [adolescents] get home they get on their PS4 and they'll play for a couple of hours and then it will be like dinner time, and then it's like I was supposed to be doing this homework and then you're late doing your homework cos you spent double the time [on social media][FG,4].

Another factor that impedes participants' study is the distracting nature of social media. Participants discussed how it is difficult to resist checking social media whilst studying. They emphasized how specific design features coupled with the strong allure encourages them to succumb to distractions. One participant explained

> a lot of people when they get distracted they go onto it and they just totally get entrenched in what they're doing on social media and they just get distracted and don't go back to their homework or their more interested in what their friends are doing than their school work[I,1].

Participants mentioned that notifications automatically shift their attention away from homework and entice them to check their devices. For example one participant commented "people get distracted like when they hear a notification they think oh what's that"[I,1] another reflected

> when I'm doing homework if I hear my phone vibrate or something I *have* to look at it and the problem is once you look at it once, you just keep going through your phone[FG,2].

The frequency of notifications was considered highly interruptive and distracting

> it's just *really* tempting and especially when you are getting notifications. And like it doesn't help when you get a notification and like you get another one cos it just continues on and on and on and on and it just like, I get so distracted and then like you start having a whole conversation[FG,2].

One participant shared their frustration noting that even when they take measures to evade distraction they still get tempted "I don't study with my phone near me cos I know that's what helps but then like the computer still distracts me with games and stuff"[FG,4] another participant agreed and expanded on this notion highlighting how easy it is to switch attention away from homework "just one tap and you just come up with YouTube, it's just so easy"[FG,4].

The general consensus was that their social media use impedes their ability to effectively learn, retain knowledge and produce quality work. One participant described how staying up late on social media results in poor concentration in class the next day

> you just don't retain anything, like your notes are messy cos you're not bothered to put in effort and then you're not bothered to listen to the teacher[I,1].

Participants discussed how procrastination and distraction diminishes their learning and quality of work. This was evident through comments such as "well if you've got less time then you're going to be rushing"[FG,3] and:

> I feel like it does impact the quality and the quantity of my homework … if I've got my phone next to me it's like I'll quickly get it [homework] done so I can get on social media[I,1]

When asked if they think social media negatively impacts their grades there was a resounding "oh yes most definitely"[FG,4] amongst one focus group. They expanded on this notion commenting that "if you start playing games then you're not learning and then your grades might be impacted"[FG,4] and "if you're procrastinating then you're not studying and then if you're not studying as much and I think it can impact your grades"[FG, 4]. Another participant supported this view "if I'm studying for a test then I think it does impact my grades because I'm thinking about my friends and not my test" [I,1]. A further participant stressed that adolescents who do not use social media have an academic advantage "some kids without social media are actually advanced cos like they don't have much to procrastinate about and kind of like I don't need to use this I'll just get straight onto my homework [FG,4].

Participants described how their social media behaviours can compromise academic integrity and in the process be detrimental to their learning. They explained how they use social media to cut corners and avoid doing the required work with regards to their learning. Some students rely on their friends' knowledge rather than putting in the effort to complete their own homework. One participant commented "my friend she always sends me questions and I like write them out for her on Snapchat"[I,3] another explained how social media is for:

> checking with your friends for answers … your homework could be like half of this persons answers and like half your own answers and it's not entirely your work[FG,3].

Similarly, instead of learning the necessary content for tests, participants mentioned how sometimes they

use social media to get inside knowledge on upcoming tests. One participant noted "if people like do the test, I can be like, oh what do I need to study"[I,3] another participant commented that if they were absent from school they ask "for test answers cos you missed out on a test"[FG,3]. A further participant explained:

> the girls and the boys in my French group if they know that someone is having like the geography test the other day and I was like oh I am doing it and they are like I'm doing it on Friday tell me the answers[I,3]

They considered social media an easy and safe way to share answers or questions "you can like take a photo and send it off and stuff but it's only private so it's just between you two"[I,1].

Discussion

This study explores adolescents' perceptions on how their social media use impacts the psychological need for competence. Findings illustrated that adolescents' typical social media use can have broad-reaching implications for cultivating and constraining competence. Of particular note, is how social media helps adolescents to express and develop valuable skills and capabilities that promote personal growth and enhance daily functioning. Nonetheless, participants also discussed how their everyday social media use can both directly and indirectly undermine competence within important life domains. Reflexive thematic analysis generated two overarching themes. Theme one, cultivating competence, includes three sub-themes—enhancing social competencies, mastery experiences and goal accomplishment, and social media expertise. Theme two, constraining competence, also has three associated sub-themes—ineffectance within the social media environment, interfering with sleep, and hindering learning. Findings highlighted how social media influences competence on multiple levels via distinct pathways. The first pathway involves users' engagement and navigation within the actual social media platforms (including the associated features and activities). The second pathway encapsulates how exposure to different content, interactions and experiences via social media also influences competence fulfilment and frustration. It should be noted that these two distinct pathways can have overlapping implications for competence. For example, social competencies can be enhanced by having the skills to effectively communicate on social media platforms, and also by being exposed to normative expectations and social interactions on social media.

Competence within the social media environment

Findings emphasize the complexity adolescents encounter when endeavouring to balance and understand the numerous (and often opposing) implications of using social media with regards to competence. Mastering environments is a central tenet of competence satisfaction (Legault, 2020). However, participants illustrated that mastering the social media context is complicated. On the one hand, participants considered themselves to be experts at using social media. On the other hand, they felt confused and frustrated when struggling to navigate the social media environment. Nonetheless, they noted that their social media knowledge and skills had improved dramatically since first joining platforms. This reflective thinking illustrates self-oriented standards of competence which refers to the comparison of past performance at an activity with current performance (Ryan & Moller, 2017). Self-oriented feedback containing positive informational elements (in this case recognizing growth and improvement) satisfies the need for competence (Ryan & Moller, 2017).

Adolescents' social media expertise was further emphasized when participants noted that they have superior skills comparative to other generations. Competence is strongly influenced by social comparison (Wheeler & Suls, 2005) and downward social comparison can increase feelings of competence (Velez et al., 2018). Compared with adults, mid-adolescents may feel less capable and knowledgeable within many areas of life (e.g., due to fewer life experiences, maturational factors and underdeveloped cognitive capacities). However, social media represents a domain where they have the opportunity to excel and impart their social media expertise with older family members, thus situating them as the expert and reinforcing feelings of competence. Participants' comparative expertise was accentuated further through discussions on how their younger siblings are naïve to the harms of social media. Some participants take on the role of mentor and feel a responsibility to outline potential harms and guide younger siblings towards adopting safe social media practises.

The acquisition of social media expertise is pertinent with regards to cultivating competence for a number of reasons. Firstly, SDT asserts that competence is more than having the capacity to perform a task, it encompasses the personal importance of the task. Therefore, as adolescents place a strong emphasis on the importance of social media, acquiring a high level of social media expertise would likely enhance their sense of competence. Secondly, adolescents use social media to fulfil a range of meaningful purposes such as seeking information, regulating emotions and fostering relationships (West et al., 2021). Thus, having the skills and knowledge to successfully navigate social media would contribute to feeling competent as it enables them to achieve desired outcomes across important life domains. Thirdly, when considering the frequency of use and the regularity of interactions that adolescents engage

in on social media, if their social media proficiency was lacking it could result in compounding and recurring instances of need frustration. Conversely, having finely-honed skills promotes opportunities for frequent effective interactions. Research shows that "repeated successes can develop strong efficacy expectations, reducing the negative impact of occasional failures" (MacAfee & Comeau, 2020, p. 206). Therefore, adolescents' sense of competence may be continually bolstered due to the accumulating and reinforcing effect of frequent successful interactions.

Overall participants perceived their social media competencies to outweigh their experiences of ineffectiveness within the social media environment. However, considering adolescents place a high value on social media and they rely on it for important purposes (e.g., maintaining friendships and sourcing information), experiences of ineffectiveness within this environment could be particularly detrimental to their perceived competence. Participants considered interactions via social media to be complicated compared with face-to-face interactions. In particular, they found navigating normative expectations and social media etiquette to be confusing with a high potential for error, especially when first using social platforms.

SDT asserts that structure and feedback play an important role in supporting competence within social contexts (Ryan & Moller, 2017). Structure provides the scaffolding (e.g., graduated progression, clear instructions and supportive feedback) needed to guide individuals towards goal accomplishment. Participants suggested that there is a lack of structure to help them successfully navigate the normative expectations when interacting with peers on social media. They explained that, with regards to peer interactions, socially acceptable behaviours when communicating online are primarily guided by unwritten rules and expectations. Therefore, in the absence of clear guidelines participants reflected that they typically learn by vicarious experiences or trial and error. Learning vicariously or through making mistakes can be effective towards mastering activities (Dweck & Sorich, 2015). However, the type of feedback an individual receives in response to making mistakes plays a key role in whether or not competence is supported. Unlike positive feedback, negative feedback predicts competence frustration (Fong et al., 2019) which can induce feelings of failure, inadequacy and self-doubt concerning abilities (Bartholomew et al., 2011). Participants noted that faux pas' on social media often provoke negative feedback and harsh punishments. For example, peers get angry and upset and, in some instances, sever friendships. Therefore, these experiences have the potential to undermine adolescents' sense of competence.

Findings also showed that circumventing other peoples' hurtful content and behaviours on social media is particularly challenging. In some instances, participants felt completely incapable of overcoming obstacles. For example, one participant expressed frustration at not being able to stop hackers continuously accessing their personal information. Another participant described the hopelessness their friend experienced due to the failed attempts to prevent persistent abuse from trolls. According to SDT it is the ongoing interactions within the social environment that influences competence (Ryan & Deci, 2004). Therefore, ongoing harmful actions of hackers and trolls could continually reinforce a sense of incompetence. It is understandable that adolescents feel ineffective and a sense of helplessness in these situations when considering that even government bodies with specially trained cyber-security professionals struggle to regulate and police harmful social media interactions (Williams et al., 2021).

In contrast to overly challenging tasks, findings also showed that many tasks participants engage in on social media are not at all challenging. Participants explained how their social media use is often automated (e.g., habitual use and mindless scrolling). Despite having the skills to successfully execute these tasks, little effort is required and engaging in them does not satisfy competence (Ryan & Deci, 2004). Moreover, participants noted that although they consider these tasks a "time-waster" they struggle to refrain from engaging in them. They expressed their frustration with regards to the numerous failed attempts to stop engaging in non-valued, meaningless scrolling, especially at the cost of sleep, thus highlighting further how their social media behaviours can stifle competence.

Social competence

Although participants noted that social media can create misunderstandings between peers, they considered it invaluable for enhancing social competencies. This finding is particularly pertinent when applying a developmental perspective. Adolescence is characterized by the expansion of social networks, increased importance of peer relationships, and a desire to belong (Allen et al., 2014; Sawyer et al., 2018). Concurrently, self-consciousness and social evaluation are heightened during adolescence (Higa McMillan et al., 2018; Somerville, 2013). Therefore, acquiring social competencies during this developmental stage is important for helping adolescents attain valued social goals such as feeling accepted, receiving support and experiencing a sense of belonging. Moreover, there is a positive relationship between social competence and psychological well-being for adolescents (Gómez-López et al., 2022) and developing social competencies during adolescence can have lasting impact on mental health, resulting

in more adaptive functioning in adulthood (Romppanen et al., 2021).

The current study suggests that social media can help adolescents experience perceived social self-efficacy, especially shy or socially anxious adolescents who experience difficulties socializing face-to-face. Participants explained that adolescents sometimes avoid face-to-face interactions to circumvent awkwardness and discomfort associated with socializing. However, within the social media context shyness and anxiety dissipates and they feel confident to interact. These findings contribute to the growing body of research exploring social media use with regards to the "poor-get-richer hypothesis". Studies suggest that socially poor individuals benefit from using social media due to social compensatory effects (Cheng et al., 2019; O'Day & Heimberg, 2021). Current findings substantiate this view highlighting how social media provides an appealing and comfortable environment that promotes social-confidence and encourages social interaction.

Consistent with recent literature (Bae, 2019; Hussenoeder, 2022), the present study demonstrated how adolescents' social media use can help build social capital. Accumulating social capital has valuable implications for satisfying competence. It enables adolescents to access and utilize social resources that can facilitate the accomplishment of self-endorsed goals (Kanazawa & Savage, 2009). Moreover, the process of attaining social capital provides opportunities for adolescents to hone social competencies. Putman (2000) conceptualizes social capital as a multi-dimensional resource encompassing social networks, social trust and reciprocity. Participants social media use can facilitate all three components. For example, collaborating on school-work via social media provides opportunities to strengthen social networks, it also involves application of a range of social skills (e.g., co-operation, support, active listening, and perspective-taking) that facilitate trust and reciprocity. Moreover, collaborative learning can enhance students' communication skills, increase self-esteem and foster more caring and supportive relationships (Ghavifekr, 2020; Laal & Ghodsi, 2012).

Participants also explained how in addition to nurturing existing offline social networks, they use social media to develop online networks with people from different social groups or geographic locations. This aligns with previous research (Liu et al., 2016; Subrahmanyam et al., 2008) showing that social media can create both "bonding social capital" (established intra-group relationships that provide closeness and intimacy) and "bridging social capital" (relationships between heterogenous groups offering diverse perspectives and new information). The accumulation of social trust and reciprocity via social media was further evidenced by participants' frequent engagement in mutually beneficial activities that promote bonding such as sharing memes, giving and receiving help, and gaming in teams. Furthermore, participants explained how social media encourages reciprocal self-disclosure. They feel comfortable to share intimate details and personal information on social media, which deepens relationships and cultivates trust (Lopez Portillo, 2020).

Competence and education

This study also highlights how the acquisition of "bridging social capital" via social media may also promote adolescents' global competence. This is a poignant finding when considering that fostering global competence has been identified as a priority for school curricula around the world (OECD, 2018). Therefore, adolescents' social media use could play a valuable role in reinforcing and enhancing global and inter-cultural education integrated within schools. This was evident through findings demonstrating that participants' social media use supports the target dimensions necessary for acquiring global competence that are outlined by the Programme for International Student Assessment within the OECD framework (2018). For example, participants value social media as a means to connect with different people beyond their proximal social groups. They experience positive interactions with people from different cultures and backgrounds via social media, which expands their understanding and appreciation of diverse perspectives. Participants also actively seek or inadvertently access global information on social media across a wide variety of topics ranging from politics and sporting news to celebrity gossip and the latest trends. Thus, social media could serve as a valuable source to complement school approaches aimed at enhancing students' global competence.

In addition to global competence, findings revealed further ways social media can promote competence within the academic realm. Participants explained that social media helps them achieve academic goals. For example, they noted that social media is useful for; inspiration on school projects, to research into a broad variety of subjects, to solve homework challenges, and to study more efficiently. This extends findings from previous research demonstrating that social media "can facilitate students to be more creative, dynamic and research-oriented" (Ansari & Khan, 2020). Furthermore, as participants use social media to collaborate on schoolwork this could further enhance academic achievement, as collaborative learning via social media has the potential to improve learner outcomes by increasing academic engagement and performance (Ansari & Khan, 2020).

Despite the competence-supportive benefits of collaborative learning via social media, findings also revealed that the collaborative nature of social media can encourage academic dishonesty. There has been growing concern regarding the increased threat social media and other digital technologies pose to secondary school students' academic integrity (Désiron & Petko, 2022). Désiron and Petko (2022) found that almost 50% of adolescents engage in academic dishonesty via digital technologies when doing homework. Moreover, adolescents who engaged in academic dishonesty, in particular cheating, demonstrated lower academic performance across multiple subjects. The current findings revealed that participants use social media to engage in a range of dishonest behaviours with regards to their educational pursuits. For example, some will copy homework, get peers to complete their school work for them, and source test questions from peers who have already undertaken tests. Although these behaviours existed prior to social media, social media is a convenient, highly accessible and far reaching tool that enables students to partake in such behaviours with relative ease. Engaging in academic dishonesty may impede the learning capacity of adolescents by stifling the development of important study skills (e.g., researching and problem solving) and creating a deficit in knowledge and skills necessary to attain academic success. Therefore, adolescents' academic dishonest behaviours on social media can inadvertently undermine the psychological need for competence.

Participants also highlighted the potential for social media to negatively impact their capacity to be fully engaged in academic tasks. Goal engagement (such as completing homework or studying for a test) is a crucial process for attaining educational pursuits (Yau et al., 2022). Furthermore, experiences of academic success in adolescence can enhance momentary and future self-efficacy (Uchida et al., 2018) and have long term repercussions for functional growth, career and job opportunities, and positive development (Crede et al., 2015; Fredricks et al., 2016). Social media interruptions whilst studying can challenge competence momentarily (e.g., inability to focus whilst completing a specific homework task), or short term (e.g., attaining poor marks on an assignment) as well as longer term (e.g., failing to get the grades needed to pursue a degree).

Participants revealed detailed examples of how their social media use interferes with concentration, diminishing work quality and potentially leading to lower grades and academic performance. This reflects Kokoç (2021) findings with Turkish participants aged 14–18. Kokoç demonstrated that adolescents who multi-task with social media whilst studying or doing homework report reduced attention control which mediated poorer academic performance. Within the current study, a key issue participants identified, was the potential for distraction and procrastination via social media when endeavouring to study. Siebers et al. (2022) note that literature exploring social media and distraction is scarce and typically focuses on adults rather than adolescents. Similarly, research investigating social media and procrastination is limited and primarily focused on emerging adults (Alblwi et al., 2021; Anwar et al., 2022; Li & Ye, 2022). This gap in the literature is notable when considering that, "adolescents differ from adults in their levels of reward sensitivity, impulse control, future orientation, and susceptibility to peer influence" (Icenogle & Cauffman, 2021, p. 1011). Subsequently, compared with adults, adolescents' under-developed self-regulatory capacities, emphasis on peer relationships and the ubiquity of social media in their everyday lives may result in greater distraction and procrastination via social media.

Current findings align with and extend previous research demonstrating that social media places pressure on self-control mechanisms by diverting attention from important tasks (such as homework). In a recent theoretical paper, Vanden Abeele et al. (2022) assert that distraction and habitual social media use is attributed to impulse-response mechanisms. They stressed that social media platforms are specifically designed to be addictive, capitalizing on human weakness with constant triggers aimed at drawing attention and encouraging continuous engagement (Vanden Abeele et al., 2022). Furthermore, research by Du et al. (2019) examined social media self-control failure for participants aged 16–60 years ($M = 33.81$). They found that participants who habitually check phones, perceive social media as ubiquitous within their lives and have heightened awareness to notifications, are more likely to fail to control their social media use. Findings from the current study show support these findings. Du et al.'s results demonstrated that social gratifications and potential for enjoyment did not predict self-control failure. Contrastingly, the current findings suggest that social and entertainment purposes contribute to adolescents' distractedness when studying. This could reflect age discrepancy between the two samples. For example, adolescents place heightened importance on peer relationships therefore may be more enticed by social gratifications. Moreover, older generations may be more inclined to turn to more traditional forms of entertainment, whereas social media may be the "go to" option for social media natives. Current findings also demonstrate that social gratifications and entertainment encourage participants to procrastinate. Participants explained how the entertainment appeal and interactions with friends on social media are more enjoyable than studying, therefore, they displace study time with social media

engagement. This aligns with research by Türel and Dokumaci (2022) who found that social media use, by Turkish students aged 12–16, resulted in academic procrastination which led to poorer academic achievement.

A key consideration is the type of motivation driving participants towards accomplishing academic tasks. Academic goals are often extrinsically driven (e.g., set homework from a teacher, requirements to pass an exam, or expectations from others in group-work) which can challenge authentic engagement. Therefore, motivation to achieve these goals can be low, which may lead to instances of distraction, procrastination and academic dishonesty, and thus fail to promote competence. Conversely, it has been well-established that for "intrinsically motivated actions, competence is an inherent satisfaction and energizer of action" (Ryan & Moller, 2017, p. 226).

Competence and personal strivings

Participants explained how their informal learning goals reflected personally meaningful, highly-valued and interest-driven endeavours, suggesting that they are intrinsically motivated. For example, participants noted that some goals were important for everyday functioning (such as grooming tips and emotion regulation strategies), others were driven by passion and enjoyment (such as investigating sports, creating YouTube channels and sharpening gaming expertise). Furthermore, findings suggested that participants used social media as a means to master personally-valued knowledge and skills. Mastery experiences involve the pursuit of goals via direct, personal experiences (as opposed to vicarious experiences) and they are the foremost source of self-efficacy (Bandura, 1977). Self-efficacy contributes to competency when the task at hand is optimally challenging rather than too easy or too difficult (Ryan & Moller, 2017). Current findings showed that participants seek and achieve optimally challenging tasks via social media as they strive towards goal accomplishment. For example, they use social media to develop new skills and expand their knowledge, therefore, associated tasks should not be too easy as they are aimed at growth and learning. Participants also discussed how they encounter difficult challenges, however, access to the broad range of information that social media affords (e.g., YouTube videos, fact sheets and peer guidance) helps them tackle challenges and successfully accomplish goals. For example, when stymied by an obstacle whilst online gaming, one participant accessed YouTube to learn the strategy necessary to overcome the challenge.

Findings suggest that participants' interest-driven interactions often enable them to experience flow. Flow is an intrinsically motivated state where individual's feel completely present and absorbed in an enjoyable activity (Nakamura & Csikszentmihalyi, 2009). Flow activities support the need for competence as they provide a series of graded challenges, that promote continued and enhanced enjoyment as skills develop (Nakamura & Csikszentmihalyi, 2009). Characteristics of flow experiences include distortion of temporal experience, focused and intense concentration on the task at hand, and a balanced challenge to skill ratio (Nakamura & Csikszentmihalyi, 2009). A key example from the current study is reflected in participants' experiences whilst gaming. Participants shared how they enjoy the challenge of striving to "level up" and get totally immersed and lose track of time whilst gaming. Furthermore, research shows that flow is intensified during group activities that involve co-operating with others (Magyaródi & Oláh, 2017). Therefore, participants may experience enhanced flow states as they noted that they typically game in teams. A recent meta-analysis (Harris et al., 2021) demonstrated a consistent positive association between flow experience and task performance. This suggest that adolescents' flow experiences whilst using social media have the potential to enhance their sense of competence.

An interesting finding was that social media provides opportunities for adolescents to use character strengths. Fostering character strengths can support optimal development and functioning (Peterson & Seligman, 2004) and has been associated with factors that influence a sense of competence, including increased engagement and performance (Karris Bachik et al., 2020; Villacís et al., 2021), inquisitiveness (Tang et al., 2019), higher self-efficacy (Vela et al., 2017; Zhou et al., 2021), and enhanced well-being (Kumar & Mohideen, 2021). Current findings illustrated ways social media enables participants to use and hone character strengths. For example, sharing funny memes and engaging in banter reflects the character strength of humour. Collaborative learning and gaming with friends align with the strength of teamwork. Helping others with problems demonstrates the strengths of kindness, perspective and love. Additionally, using social media to access a range of information reflects curiosity and love of learning. Participants also mentioned they are often motivated to engage in these tasks due to the inherent satisfaction, which infers they are intrinsically rewarding and therefore competence supportive.

Competence and sleep

Although participants discussed how social media can be used for a range of activities that enhance competence, the timing of their social media use is important. In addition to their social media use impeding study time, participants stressed how it also interferes with their sleep time. Consistent with previous literature (Alonzo et al., 2021; MacKenzie et al., 2022; Varghese et al., 2021)

participants shared how their bedtime social media use displaces sleep time, resulting in reduced sleep duration. In addition, they noted how their bedtime social media habits lead to poor sleep quality and delayed sleep onset. This aligns with findings by Varghese et al. (2021) who found that Italian adolescents' social media use also leads to difficulties with sleep onset. A recent literature review by MacKenzie et al. (2022) revealed that adolescents aged between 10 and 24 years from a variety of countries (including Australia) perceived their engagement with social media at bedtime to be driven by "social motivations" and "habitual use". Social motivations included FOMO (fear of missing out) and social accountability (e.g., constantly being available for friends). Habitual use included urges to check phones, non-intentional scrolling and losing track of time. The current study substantiates these findings demonstrating that social motivations and habitual use also drive Australian adolescents' social media use at bedtime. Moreover, current findings extend those of Mackenzie et al. by providing further details into how participants' sleep is impaired by their social media use. For example, participants explained how cognitive arousal from using social media contributes to delayed sleep onset, and the easy accessibility and close proximity of devices both delays and interrupts sleep.

Sleep plays a critical role in healthy development and effectual daily functioning. Inadequate sleep can impair learning, cognition and emotion regulation, and research suggests this is particularly true during the formative period of adolescence (Galván, 2020). Adolescents who experience short sleep duration have diminished attention, working memory and cognitive processing, as well as decreased positive mood (Lo et al., 2016; Orna & Efrat, 2022). Furthermore, adolescents who have insufficient or poor-quality sleep experience adverse mental and behavioural outcomes including diminished capacity to control negative emotions, increased emotionality, conduct problems and issues with peer relationships (Kosticova et al., 2020). Therefore, the negative repercussions of inadequate sleep have the potential to undermine competence within many domains (e.g., socially, emotionally, functionally and academically). This was evidenced in the current study as participants described how their nocturnal social media use inhibits their capacity to function properly the following day. For example, they reported feeling irritable, short-tempered, and unable to think clearly or concentrate. Participants described how they experience an internal battle between the forces that drive their bedtime social media use and the awareness that they should take responsibility to curtail their behaviours. Despite acknowledging the high potential for negative repercussions, participants noted that they typically prioritize social media over sleep. This causes frustration that feeds into the feeling of incompetence. Incompetence is exacerbated further as self-imposed strategies (e.g.,

allocating time limits or putting devices down) aimed at combatting bedtime use, often results in failed attempts to disengage.

Limitations, implications and future directions

Caution should be taken when generalizing findings to other populations. For instance, the current sample of students were from schools with above average SES. Research demonstrates that adolescents from lower SES backgrounds experience multiple stressors which negatively impact cognition, health and behaviour and contribute to reduced social and academic competence (Cedeño et al., 2016). Furthermore, literature suggests that young people from lower SES backgrounds are more susceptible to risks associated with social media use (Banaji et al., 2018). Therefore, adolescents from lower SES backgrounds may have different experiences when using social media with regards to satisfying the psychological need for competence. Moreover, the current findings are based on 15-year-old adolescents. It is plausible that adolescents in different developmental stages (i.e., early and late adolescence) may encounter unique and different experiences. For example, current findings revealed that by mid-adolescence, despite experiencing challenges, participants considered themselves to have acquired a high level of social media expertise. In contrast, early adolescents are comparatively inexperienced with under-developed social media literacies (Pangrazio & Cardozo-Gaibisso, 2020) and therefore may feel less effective within the social media environment. Furthermore, the impact of social media use on factors outside of the social media environment (e.g., sleep, study or personal interests) may differ across adolescence with varied implications for competence. In addition, a range of other factors such as parental regulation, cultural differences, and various demographic variables may also influence the relationship between social media use and competence. Therefore, future research is needed to unravel some of the intricacies.

The current study addresses the recent call for "a more nuanced perspective to understand the *who, what*, and *when* of social media use and its impact on adolescent well-being" (Hamilton et al., 2022, p. 662). Findings highlighted how the pervasive integration of social media within contemporary adolescents' lives impacts young peoples' experiences of competence differently compared with previous generations. In addition to striving to be effective within the more traditional contexts (e.g., school, family, sporting clubs and face-to-face social groups), adolescents have the added pressure of trying to successfully navigate the ever-changing and highly complex social media context. Participants explained that there is a steep learning curve when negotiating the many challenges they encounter when using social media.

Therefore, the current study substantiates the proposition by researchers that social media literacy is necessary to help people successfully navigate the digital communication society that we now live in (Cho et al., 2022; Festl, 2021).

Consistent with the recommendations by Cho et al. (2022), current findings suggest that social media literacy could play a central role as a preventative approach to circumvent obstacles that impede adolescents' competence. This study also illuminated that social media literacy should not only aim to combat negative outcomes, it could be designed to help adolescents use social media in a way that enhances their experiences and cultivates competence. The field of social media literacy is emergent, thus, Cho et al. (2022) recognize the need to modify and refine their framework. An important consideration is to develop social media literacy programmes that target specific needs and experiences at different stages of adolescence. The current study identifies factors that could increase the efficacy and relevance of social media literacy programmes for mid-adolescents. For example, the timing of programme implementation should be carefully considered, as findings suggest that mid-adolescents would benefit from acquiring social media literacy skills prior to joining platforms. In addition, programmes could help mid-adolescents recognize potential obstacles that emerge when communicating online (e.g., lack of sensory cues) compared with in person. This could alleviate the high potential for misinterpretation and the subsequent strong, negative emotional reactions that participants described. Considering adolescents experience heightened emotionality, programmes could incorporate strategies that increase awareness of how emotions play a pivotal role in the creation and interpretation of content. Furthermore, current findings highlighted how mid-adolescents' competence can be supported through teaching younger siblings about social media. Schools could introduce a near-peer mentoring component within social media literacy programmes. This could be useful for both cohorts; mid-adolescents could experience a sense of competence from imparting their social media knowledge, whilst the younger students may be more engaged learning from people who have lived-experienced and a deep understanding of social media.

A notable finding from the current study was how adolescents' online interactions permeate offline worlds with regards to their experiences of competence. Their social media use has broad implications for competence within many life domains outside of the digital realm. For example, findings accentuated that enhancing social competencies through social media nurtures offline relationships. Acquiring skills and knowledge via social media can complement formal learning and promote informal learning that extends knowledge beyond what is offered within the school curriculum. Pursuing interests and passions via social media can foster competence within offline leisure pursuits. On the contrary, adolescents' engagement with social media can have serious negative implications for everyday functioning, learning and sleep, which in turn impedes competence. These findings highlight how adolescents' online and offline worlds are intricately interwoven. Subsequently, further research into how adolescents' social media use impacts competence should adopt an approach that recognizes the interconnectedness between contexts (e.g., social media, school, peer groups, and homelife). This would help to illuminate the nuances of how adolescents' social media use can potentially influence competence (both positively and negatively) across many facets of their lives.

Conclusion

This study explores how adolescents' social media use impacts the psychological need for competence. Applying multiple qualitative methods and consulting directly with adolescents, produced in-depth and unique insights. Findings revealed that adolescents' social media use can cultivate competence by enhancing social competencies, enabling mastery experiences and goal accomplishment, and promoting social media expertise. However, it can also constrain competence by engendering feelings of ineffectiveness within the social media environment, interfering with sleep, and hindering learning. An important finding was that adolescents' interactions on social media have broader implications that influence their everyday functioning within both online and offline realms. These findings are particularly pertinent when considering that contextual environments are integral in promoting positive or negative developmental trajectories. As social media is a pervasive and prominent context within adolescents' lives, and there is scarce literature examining the impact on competence, further research is warranted. What is needed is the development of social media literacy programmes, specifically tailored for different developmental stages, that help adolescents engage with social media in a way that encourages the cultivation of competence and circumvents constraints on competence.

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Disclosure statement

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Ethics

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References

Alblwi, A., McAlaney, J., Al Thani, D. A. S., Phalp, K., & Ali, R. (2021). Procrastination on social media: Predictors of types, triggers and acceptance of countermeasures. *Social Network Analysis and Mining*, 11(1), 19. https://doi.org/10.1007/s13278-021-00727-1

Allen, K.-A., Ryan, T., Gray, D. L., McInerney, D. M., & Waters, L. (2014). Social media use and social connectedness in adolescents: The positives and the potential pitfalls. *The Australian Educational and Developmental Psychologist*, 31(1), 18–31. https://doi.org/10.1017/edp.2014.2

Alonzo, R., Hussain, J., Stranges, S., & Amderson, K. K. (2021). Interplay between social media use, sleep quality, and mental health in youth: A systematic review. *Sleep Medicine Reviews 56*, 101414. Article 101414. https://doi.org/10.1016/j.smrv.2020.101414

Ansari, J. A. N., & Khan, N. A. (2020). Exploring the role of social media in collaborative learning the new domain of learning. *Smart Learning Environments*, 7(1), 9. https://doi.org/10.1186/s40561-020-00118-7

Anwar, M., Anwar, A., & Marwan, A. H. (2022). Impact of social media usage on academic procrastination. *Global Educational Studies Review*, VII(II), 251–262. https://doi.org/10.31703/gesr.2022(VII-II).24

Australian Curriculum Assessment and Reporting Authority. (2019). *Home | my school*. https://www.myschool.edu.au/

Bae, S. M. (2019). The relationship between smartphone use for communication, social capital, and subjective well-being in Korean adolescents: Verification using multiple latent growth modeling. *Children and Youth Services Review*, 96, 93–99. https://doi.org/10.1016/j.childyouth.2018.11.032

Banaji, S., Livingstone, S., Nandi, A., & Stoilova, M. (2018). Instrumentalising the digital: Adolescents' engagement with ICTs in low- and middle-income countries. *Development in Practice*, 28(3), 432–443. https://doi.org/10.1080/09614524.2018.1438366

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Bartholomew, K., Ntoumanis, N., Ryan, R. M., & Thøgersen-Ntoumanis, C. (2011). Self- determination theory and the darker side of athletic experience: The role of interpersonal control and need thwarting. *Journal of Sport and Exercise Psychology*, 33(1), 75–102. https://doi.org/10.1123/jsep.33.1.75

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2020). One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qualitative Research in Psychology*, 18(3), 328–325. https://doi.org/10.1080/14780887.2020.1769238

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.

Cedeño, L. F., Martínez-Arias, R., & Bueno, J. A. (2016). Implications of socioeconomic status on academic competence: A perspective for teachers. *International Education Studies*, 9(4), 257–267. https://doi.org/10.5539/ies.v9n4p257

Chazan, D. J., Pelletier, G. N., & Daniels, L. M. (2022). Achievement goal theory review: An application to school psychology. *Canadian Journal of School Psychology*, 37(1), 40–56. https://doi.org/10.1177/08295735211058319

Cheng, C., Wang, H.-Y., Sigerson, L., & Chau, C.-L. (2019). Do the socially rich get richer? A nuanced perspective on social network site use and online social capital accrual. *Psychological Bulletin*, 145(7), 734–764. https://doi.org/10.1037/bul0000198

Cho, H., Cannon, J., Lopez, R., & Li, W. (2022). *Social media literacy: A conceptual framework*. New Media & Society. https://doi.org/10.1177/14614448211068530

Chu, T. L., (ALAN), Zhang, X., Lee, J., & Zhang, T. (2021). Perceived coach-created environment directly predicts

high school athletes' physical activity during sport. *International Journal of Sports Science & Coaching*, *16*(1), 70–80. https://doi.org/10.1177/1747954120959733

Conte, K. P., & Davidson, S. (2020). Using a 'rich picture' to facilitate systems thinking in research coproduction. *Health Research Policy and Systems*, *18*(1), 14. https://doi.org/10.1186/s12961-019-0514-2

Cosma, A., Stevens, G., Martin, G., Duinhof, E. L., Walsh, S. D., Garcia-Moya, I., Költő, A., Gobina, I., Canale, N., Catunda, C., Inchley, J., & de Looze, M. (2020). Cross-national time trends in adolescent mental well-being from 2002 to 2018 and the explanatory role of schoolwork pressure. *The Journal of Adolescent Health*, *66*(6S), S50–S58. https://doi.org/10.1016/j.jadohealth.2020.02.010

Crede, J., Wirthwein, L., McElvany, N., & Steinmayr, R. (2015). Adolescents' academic achievement and life satisfaction: The role of parents' education. *Frontiers in Psychology*, *6*. Article 52. https://doi.org/10.3389/fpsyg.2015.00052

Davis, K., Charmaraman, L., & Weinstein, E. (2020). Introduction to special issue: Adolescent and emerging adult development in an age of social media. *Journal of Adolescent Research*, *35*(1), 3–15. https://doi.org/10.1177/0743558419886392

Deci, E. L., & Moller, A. C. (2005). The concept of competence: A starting place for understanding intrinsic motivation and self-determined extrinsic motivation. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 579–597). Guilford Publications.

de la Barrera, U., Schoeps, K., Gil-Gómez, J. A., & Montoya-Castilla, I. (2019). Predicting adolescent adjustment and well-being: The interplay between socio-emotional and personal factors. *International Journal of Environmental Research and Public Health*, *16*(23), 4650. https://doi.org/10.3390/ijerph16234650

Désiron, J. C., & Petko, D. (2022). Academic dishonesty when doing homework: How digital technologies are put to bad use in secondary schools. *Education and Information Technologies*, *28*(2), 1251–1271. https://doi.org/10.1007/s10639-022-11225-y

Du, J., Kerkhof, P., & van Koningsbruggen, G. M. (2019). Predictors of social media self-control failure: Immediate gratifications, habitual checking, ubiquity, and notifications. *Cyberpsychology, Behavior and Social Networking*, *22*(7), 477–485. https://doi.org/10.1089/cyber.2018.0730

Dweck, C. S., & Sorich, L. A. (2015). Mastery-oriented thinking. In C. R. Snyder (Ed.), *Coping: The psychology of what works* (pp. 232–251). Oxford Academic. https://doi.org/10.1093/med:psych/9780195119343.003.0011

Edgerton, J. D., & Roberts, L. W. (2014). Need for achievement. In A. C. Michalos (Ed.), *Encyclopedia of quality of life and well-being research* (pp. 4282–4287). Springer. https://doi.org/10.1007/978-94-007-0753-5_1916

Festl, R. (2021). Social media literacy & adolescent social online behavior in Germany. *Journal of Children and Media*, *15*(2), 249–271. https://doi.org/10.1080/17482798.2020.1770110

Fong, C. J., Patall, E. A., Vasquez, A. C., & Stautberg, S. (2019). A meta-analysis of negative feedback on intrinsic motivation. *Educational Psychology Review*, *31*(1), 121–162. https://doi.org/10.1007/s10648-9446-6.

Fredricks, J. A., Filsecker, M., & Lawson, M. A. (2016). Student engagement, context, and adjustment: Addressing definitional, measurement, and methodological issues. *Learning and Instruction*, *43*, 1–4. https://doi.org/10.1016/j.learninstruc.2016.02.002

Galván, A. (2020). The need for sleep in the adolescent brain. *Trends in Cognitive Sciences*, *24*(1), 79–89. https://doi.org/10.1016/j.tics.2019.11.002

Ghavifekr, S. (2020). Collaborative learning: A key to enhance students' social interaction skills. *Malaysian Online Journal of Educational Sciences*, *8*(4), 9–21. https://eric.ed.gov/?id=EJ1271748

Gómez-López, M., Viejo, C., Romera, E. M., & Ortega-Ruiz, R. (2022). Psychological well-being and social competence during adolescence: Longitudinal association between the two phenomena. *Child Indicators Research*, *15*(3), 1043–1061. https://doi.org/10.1007/s12187-021-09899-w

Guay, F. (2022). Applying self-determination theory to education: Regulations types, psychological needs, and autonomy supporting behaviors. *Canadian Journal of School Psychology*, *37*(1), 75–92. https://doi.org/10.1177/08295735211055355

Hamilton, J. L., Nesi, J., & Choukas-Bradley, S. (2022). Reexamining social media and socioemotional well-being among adolescents through the lens of the COVID-19 pandemic: A theoretical review and directions for future research. *Perspectives on Psychological Science*, *17*(3), 662–679. https://doi.org/10.1177/17456916211014189

Harris, D. J., Allen, K. L., Vine, S. J., & Wilson, M. R. (2021). A systematic review and meta-analysis of the relationship between flow states and performance. *International Review of Sport and Exercise Psychology*, 1–29. https://doi.org/10.1080/1750984X.2021.1929402

Higa McMillan, C. K., Takishima-Lacasa, J. Y., & Ramsey, K. (2018). Self-consciousness. *Encyclopedia of Adolescence*, 3347–3355. https://doi.org/10.1007/978-3-319-33228-4_360

Horowitz, J. M., & Graf, N. (2019). Most US teens see anxiety and depression as a major problem among their peers. *Pew Research Center*, *20*. https://www.pewsocialtrends.org/2019/02/20/most-u-s-teens-see-anxiety-and-depression-as-a-major-problem-among-their-peers/

Hussenoeder, F. S. (2022). The bright side of social network sites: On the potential of online social capital for mental health. *Digital Health 8*, 205520762210931. E-collection 20552076221093133. https://doi.org/10.1177/20552076221093133

Icenogle, G., & Cauffman, E. (2021). Adolescent decision making: A decade in review. *Journal of Research on Adolescence*, *31*(4), 1006–1022. https://doi.org/10.1111/jora.12608

Kanazawa, S., & Savage, J. (2009). An evolutionary psychological perspective on social capital. *Journal of Economic Psychology*, *30*(6), 873–883. https://doi.org/10.1016/j.joep.2009.08.002

Karris Bachik, M. A., Carey, G., & Craighead, W. E. (2020). Via character strengths among U.S. college students and their associations with happiness, well-being, resiliency, academic success and psychopathology. *The Journal of Positive Psychology*, *16*(4), 512–525. https://doi.org/10.1080/17439760.2020.1752785

Kokoç, M. (2021). The mediating role of attention control in the link between multitasking with social media and academic performances among adolescents. *Scandinavian Journal of Psychology*, *62*(4), 493–501. https://doi.org/10.1111/sjop.12731

Kosticova, M., Husarova, D., & Dankulincova, Z. (2020). Difficulties in getting to sleep and their association with emotional and behavioural problems in adolescents: Does the sleeping duration influence this association? *International Journal of Environmental Research and*

Public Health, *17*(5), 1691. https://doi.org/10.3390/ijerph17051691

Krogh, S. C. (2022). You can't do anything right': How adolescents experience and navigate the achievement imperative on social media. *Young*, *31*(1), 5–21. https://doi.org/10.1177/11033088221111224

Krueger, R., & Casey, M. A. (2014). *Focus groups: A practical guide for applied research*. Sage Publications.

Kumar, P. A., & Mohideen, F. (2021). Strengths-based positive schooling interventions: A scoping review. *Contemporary School Psychology*, *25*, 86–98. https://doi.org/10.1007/s40688-019-00260-1

Laal, M., & Ghodsi, S. M. (2012). Benefits of collaborative learning. *Procedia Social and Behavioral Sciences*, *31*, 486–490. https://doi.org/10.1016/j.sbspro.2011.12.091

Lee, C. C., Enzler, C. J., Garland, B. H., Zimmerman, C. J., Raphael, J. L., Hergenroeder, A. C., & Wiemann, C. M. (2021). The development of health self-management among adolescents with chronic conditions: An application of self-determination theory. *The Journal of Adolescent Health*, *68*(2), 394–402. https://doi.org/10.1016/j.jadohealth.2020.05.053

Legault, L. (2020). The need for competence. In V. Zeigler-Hill & T. K. Shackelford (Eds.), *Encyclopedia of personality and individual differences* (pp. 3128–3129). Springer. https://doi.org/10.1007/978-3-319-24612-3_1123

Liu, D., Ainsworth, S. E., & Baumeister, R. F. (2016). A meta-analysis of social networking online and social capital. *Review of General Psychology*, *20*(4), 369–391. https://doi.org/10.1037/gpr0000091

Li, X., & Ye, Y. (2022). Fear of missing out and irrational procrastination in the mobile social media environment: A moderated mediation analysis. *Cyberpsychology, Behavior and Social Networking*, *25*(1), 59–65. https://doi.org/10.1089/cyber.2021.0052

Lo, J. C., Ong, J. L., Leong, R. L., Gooley, J. J., & Chee, M. W. (2016). Cognitive performance, sleepiness, and mood in partially sleep deprived adolescents: The need for sleep study. *Sleep*, *39*(3), 687–698. https://doi.org/10.5665/sleep.5552

Lopez Portillo, B. (2020). Disclosure reciprocity. In V. Zeigler-Hill & T. K. Shackelford (Eds.), *Encyclopedia of personality and individual differences*. Springer. https://doi.org/10.1007/978-3-319-24612-3_653

MacAfee, E., & Comeau, G. (2020). Exploring music performance anxiety, self-efficacy, performance quality, and behavioural anxiety within a self-modelling intervention for young musicians. *Music Education Research*, *22*(4), 457–477. https://doi.org/10.1080/14613808.2020.1781074

MacKenzie, M. D., Scott, H., Reid, K., & Gardani, M. (2022). Adolescent perspectives of bedtime social media use: A qualitative systematic review and thematic synthesis. *Sleep Medicine Reviews*, *63*, 101626. https://doi.org/10.1016/j.smrv.2022.101626

Madsen, O. J. (2021). Deconstructing Scandinavia's 'achievement generation': A youth *mental health crisis?*. Palgrave Macmillan.

Mafuba, K., & Gates, B. (2012). Sequential multiple methods as a contemporary method in learning disability nursing practice research. *Journal of Intellectual Disabilities*, *16*(4), 287–296. https://doi.org/10.1177/1744629512462178

Magyaródi, T., & Oláh, A. (2017). The effect of social interaction on flow experience. *International Journal of Psychology & Behavior Analysis*, *3*(126), 1–5. https://doi.org/10.15344/2455-3867/2017/126

Manca, S., Bocconi, S., & Gleason, B. (2021). "Think globally, act locally": A glocal approach to the development of social media literacy. *Computers & Education*, *160*, 104025. https://doi.org/10.1016/j.compedu.2020.104025

Nakamura, J., & Csikszentmihalyi, M. (2009). Flow theory and research. In S. J. Lopez & C. R. Snyder (Eds.), *Oxford handbook of positive psychology* (pp. 195–206). Oxford University Press.

Nesi, J., Telzer, E. H., & Prinstein, M. J. (2020). Adolescent development in the digital media context. *Psychological Inquiry*, *31*(3), 229–234. https://doi.org/10.1080/1047840X.2020.1820219

Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory & Research in Education*, *7*(2), 133–144. https://doi.org/10.1177/1477878509104318

O'Day, E. B., & Heimberg, R. G. (2021). Social media use, social anxiety, and loneliness: A systematic review. *Computers in Human Behavior Reports 3*, 100070. Article 100070. https://doi.org/10.1016/j.chbr.2021.100070

OECD. (2018). Preparing our youth for an inclusive and sustainable world – the OECD PISA global competence framework. https://www.oecd.org/education/Global-competency-for-an-inclusive-world.pdf

O'Reilly, M., Dogra, N., Hughes, J., Reilly, P., George, R., & Whiteman, N. (2019). Potential of social media in promoting mental health in adolescents. *Health Promotion International*, *34*(5), 981–991. https://doi.org/10.1093/heapro/day056

Orna, T., & Efrat, B. (2022). Sleep loss, daytime sleepiness, and neurobehavioral performance among adolescents: A field study. *Clocks & Sleep*, *4*(1), 160–171. https://doi.org/10.3390/clockssleep4010015

Pangrazio, L., & Cardozo-Gaibisso, L. (2020). Beyond cybersafety: The need to develop social media literacies in pre-teens. *Digital Education Review*, *37*(37), 49–63. https://doi.org/10.1344/der.2020.37.49-63

Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2020). The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth*, *25*(1), 104–112. https://doi.org/10.1080/02673843.2019.1596823

Peterson, C., & Seligman, M. E. (2004). *Character strengths and virtues: A handbook and classification* (Vol. 1). Oxford University Press.

Popat, A., & Tarrant, C. (2022). Exploring adolescents' perspectives on social media and mental health and well-being – A qualitative literature review. *Clinical child psychology and psychiatry*, *28*(1), 323–337. https://doi.org/10.1177/13591045221092884

Putnam, R. (1995). Bowling alone: America's declining social capital. *Journal of Democracy*, *6*(1), 65–78. https://doi.org/10.1353/jod.1995.0002

Romppanen, E., Korhonen, M., Salmelin, R. K., Puura, K., & Luoma, I. (2021). The significance of adolescent social competence for mental health in young adulthood. *Mental Health and Prevention*, *21*, 200198. https://doi.org/10.1016/j.mhp.2021.200198

Rudolph, K. D., Davis, M. M., Skymba, H. V., Modi, H. H., & Telzer, E. H. (2021). Social experience calibrates neural sensitivity to social feedback during adolescence: A functional connectivity approach. *Developmental Cognitive Neuroscience 47*, 100903. Article 100903. https://doi.org/10.1016/j.dcn.2020.100903

Ryan, R., & Deci, E. L. (2004). Overview of self-determination theory: An organismic dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self- determination research* (pp. 3–33). The University of Rochester Press.

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology 61*, 101860. Article 101860. https://doi.org/10.1016/j.cedpsych.2020.101860

Ryan, R. M., & Moller, A. C. (2017). Competence as central, but not sufficient, for high- quality motivation: A self-determination theory perspective. In A. J. Elliot, C. S. Dweck, & D. S. Yeager (Eds.), *Handbook of competence and motivation: Theory and application* (pp. 214–231). The Guilford Press.

Sagone, E., De Caroli, M. E., Falanga, R., & Indiana, M. L. (2020). Resilience and perceived self-efficacy in life skills from early to late adolescence. *International Journal of Adolescence and Youth*, *25*(1), 882–890. https://doi.org/10.1080/02673843.2020.1771599

Sawyer, S. M., Azzopardi, P. S., Wickremarathne, D., & Patton, G. C. (2018). The age of adolescence. *The Lancet Child & Adolescent Health*, *2*(3), 223–228. https://doi.org/10.1016/S2352-4642(18)30022-1

Schaffer, V. (2015). Social media: A conduit for increasing knowledge and skill for capacity building. *E-Journal of Social & Behavioural Research in Business*, *6*(2), 20–33.

Siebers, T., Beyens, I., Pouwels, J. L., & Valkenburg, P. M. (2022). Social media and distraction: An experience sampling study among adolescents. *Media Psychology*, *25*(3), 343–366. https://doi.org/10.1080/15213269.2021.1959350

Smith, H. M., & Betz, N. E. (2000). Development and validation of a scale of scale of perceived social self-efficacy. *Journal of Career Assessment*, *8*(3), 283–301. https://doi.org/10.1177/106907270000800306

Somerville, L. H. (2013). The teenage brain: Sensitivity to social evaluation. *Current Directions in Psychological Science*, *22*(2), 121–127. https://doi.org/10.1177/0963721413476512

Steinberg, L. (2023). *Adolescence* (13th ed.) McGraw Hill.

Subrahmanyam, K., Reich, S., Waechter, N., & Espinoza, G. (2008). Online and offline social networks: Use of social networking sites by emerging adults. *Journal of Applied Developmental Psychology*, *29*(6), 420–433. https://doi.org/10.1016/j.appdev.2008.07.003

Tang, X., Li, Y., Cheng, W., Mu, X., & Duan, W. (2019). Character strengths lead to satisfactory educational outcomes through strengths knowledge and strengths use. *Frontiers in Psychology*, *10*, 1–29. https://doi.org/10.3389/fpsyg.2019.01829

Telzer, E. H., Qu, Y., Goldenberg, D., Fuligni, A. J., Galván, A., & Lieberman, M. D. (2014). Adolescents' emotional competence is associated with parents' neural sensitivity to emotions. *Frontiers in Human Neuroscience*, *8*, 558–587. https://doi.org/10.3389/fnhum.2014.00558

Türel, Y. K., & Dokumaci, O. (2022). Use of media and technology, academic procrastination, and academic achievement in adolescence. *Participatory Educational Research*, *9*(2), 481–497. https://doi.org/10.17275/per.22.50.9.2

Uchida, A., Michael, R. B., & Mori, K. (2018). An induced successful performance enhances student self-efficacy and boosts academic achievement. *AERA Open*, *4*(4), https://doi.org/10.1177/2332858418806198

Usán, P., Salavera, C., & Quílez-Robres, A. (2022). Self-efficacy, optimism, and academic performance as psychoeducational variables: Mediation approach in students. *Children*, *9*(3), 420. https://doi.org/10.3390/children9030420

Vanden Abeele, M. M. P., Halfmann, A., & Lee, E. W. J. (2022). Drug, demon, or donut? Theorizing the relationship between social media use, digital well-being and digital disconnection. *Current Opinion in Psychology*, *45*, 101295. https://doi.org/10.1016/j.copsyc.2021.12.007

Vandenbosch, L., Fardouly, J., & Tiggemann, M. (2022). Social media and body image: Recent trends and future directions. *Current Opinion in Psychology*, *45*, 101289. https://doi.org/10.1016/j.copsyc.2021.12.002

Varghese, N. E., Santoro, E., Lugo, A., Madrid-Valero, J. J., Ghislandi, S., Torbica, A., & Gallus, S. (2021). The role of technology and social media use in sleep-onset difficulties among Italian adolescents: Cross-sectional study. *Journal of Medical Internet Research*, *23*(1), e20319. https://doi.org/10.2196/20319

Vela, J. C., Sparrow, G. S., Ikonomopoulos, J., Gonzalez, S. L., & Rodriguez, B. (2017). The role of character strengths and family importance on Mexican American college students' life satisfaction. *Journal of Hispanic Higher Education*, *16*(3), 273–285. https://doi.org/10.1177/1538192716628958

Velez, J. A., Ewoldsen, D. R., Hanus, M. D., Song, H., & Villarreal, J. A. (2018). Social comparisons and need fulfillment: Interpreting video game enjoyment in the context of leaderboards. *Communication Research Reports*, *35*(5), 424–433. https://doi.org/10.1080/08824096.2018.1525352

Villacís, J. L., de la Fuente, J., & Naval, C. (2021). Good character at college: The combined role of second-order character strength factors and phronesis motivation in undergraduate academic outcomes. *International Journal of Environmental Research and Public Health*, *18*(16), 8263. https://doi.org/10.3390/ijerph18168263

Wagnsson, S., Lindwall, M., & Gustafsson, H. (2014). Participation in organized sport and self-esteem across adolescence: The mediating role of perceived sport competence. *Journal of Sport & Exercise Psychology*, *36*(6), 584–594. https://doi.org/10.1123/jsep.2013-0137

West, M., Rice, S., & Vella-Brodrick, D. (2021). Exploring the "social" in social media: Adolescent relatedness—thwarted and supported. *Journal of Adolescent Research*, https://doi.org/10.1177/07435584211062158

Wheeler, L., & Suls, J. (2005). Social comparison and self-evaluations of competence. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 566–578). Guilford Publications.

White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review*, *66*(5), 297–333. https://doi.org/10.1037/h0040934

Williams, M., Butler, M., Jurek-Loughrey, A., & Sezer, S. (2021). Offensive communications: Exploring the challenges involved in policing social media. *Contemporary Social Science*, *16*(2), 227–240. https://doi.org/10.1080/21582041.2018.1563305

World Health Organization. (2014). Health for the world's adolescents: A second chance in the second decade: Summary. https://apps.who.int/iris/handle/10665/112750

Yau, P. S., Cho, Y., Shane, J., Kay, J., & Heckhausen, J. (2022). Parenting and adolescents' academic achievement: The mediating role of goal engagement and disengagement. *Journal of Child and Family Studies*, *31*(4), 897–909. https://doi.org/10.1007/s10826-021-02007-0

Zhou, H., Yue, X. D., Zhang, X., Shangguan, F., & Zhang, X. Y. (2021). Self-efficacy and mental health problems during COVID-19 pandemic: A multiple mediation model based on the Health belief Model. *Personality and Individual Differences*, *179*, Article 110893. https://doi.org/10.1016/j.paid.2021.110893